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# GREEN SCENE

THE MAGAZINE OF THE PENNSYLVANIA HORTICULTURAL SOCIETY • SEPT./OCT. 1990 • \$2.00



*Botanical Art: Larger Than Life*  
(See page 23)

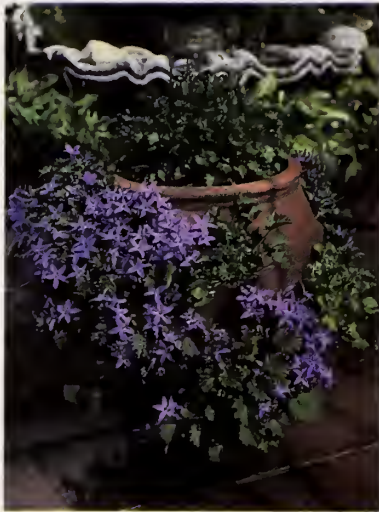




in this issue



4.



13.



16.

#### Front Cover:

Artist Tom Steigerwald's orchid paintings at his home: *Paphiopedilum* in the foreground and *Odontoglossum* through the doorway. Both paintings won honors in the Southeastern Pennsylvania Orchid Society Show held in the area in February, 1990. Steigerwald deeply appreciates the orchids' beauty and wants to share what is generally hidden from the casual viewer's eye. "The orchids, greatly enlarged, force us into higher consciousness of its complex but sublime structure."

Front Cover: photo by John F. Waggaman II

Back Cover: photo by Mary Lou Wolfe

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#### CORRECTION

The shrub rose pictured on page 29 of the July 1990 issue of *Green Scene* ["Flowering Shrubs — City Heroes"] is incorrectly identified as Apothecary Rose (*R. officinalis*).

While we do have Apothecary Rose as well as its sport 'Rosa Mundi' growing in our herb garden, the large shrub rose pictured is actually *Rosa eglanteria*, the eglantine rose. This large shrub rose grows to 10 feet, has apple-scented foliage that permeates the air around the plant and deep pink, single flowers in the spring followed by orange hips that persist well into the winter.

Sincerely,  
Tony Infante, Grounds Foreman  
Pennsylvania Hospital

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# Books about City Gardens and American Garden Writing

By Jean Byrne

About 15 years ago, Linda Yang wrote the excellent book, *The Terrace Gardener's Handbook*, which is now difficult to find, except perhaps in a well-stocked horticultural library. City gardeners know how few books fit their specific needs so we were pleased to see Linda Yang's just-released *The City Gardener's Handbook: From Balcony to Backyard* (Random House \$26.95) on the market. A book like this has been on the city gardener's wish list for years. For example, a friend who lives in the Dorchester, a high-rise on Rittenhouse Square in Philadelphia, spent the last three years without a garden. Tired of the annuals available around the corner at the local hardware store, she yearned for a real garden on her terrace where she could clink her iced tea, read the paper, listen to the opera and keep an eye on the city. This year I gave her a holiday gift of a two-hour consultation with a garden designer. The designer created a wonderful structure of large and small pots with palms, impatiens, begonias and a variety of ivies. Very Mediterranean on the terra-cotta tiles.

*The City Gardener's Handbook*, is a comprehensive guide to planting small spaces and containers, and answers those needs creatively, effectively and sensitively in a beautifully organized and highly readable book. It should be in every city gardener's collection, as well as those who depend on containers or in suburban garden apartments. The book includes 150 full-color photographs, 70 line drawings and eight garden plans. Linda Yang, who writes a weekly garden column for Thursday's Home Section of the *New York Times*, has gardened on the 19th floor of a Manhattan high-rise and now gardens from her townhouse in the East 50s. She includes everything in this thoroughly practical guide from soil to mulching, fertilizing, lights, pest controls and an all-season guide about what to plant when.

Included also is a photo of PHS member Ann McPhail's garden, some of Philadelphia's Andropogon Associates Ltd. designs that were once included in *Green Scene*, and some Lawrence Thomas plantings, whose article on rock garden plants in containers in Manhattan is included in this issue of *Green Scene*, as well as a Foreword

by Pennsylvania Horticultural Society president Jane Pepper. It's definitely going on my gift list.

Another book that arrived on my desk at the same time was Allen Lacy's paperback edition of *The American Gardener, A Sampler* (Noonday/Farrar Straus & Giroux, \$10.95). Lacy is another gardening columnist for the *New York Times* who has also written for *Green Scene*. Lacy's book is a compilation of essays by American garden writers, going back to Thomas

tion, he does argue that the two centuries of American garden literature is vast and influential. It flourishes in books, magazines and newspaper columns. Lacy claims the literature is so vast that he offers only a sampler, "this book has come into being so that other readers can join me at a feast."

How wonderful to be invited to such a feast, where the menu has been chosen by a connoisseur: the roster of authors includes some writers who have appeared in *Green Scene*: the lively Frederick McGourty, Pamela Harper, and Linda Yang; others we have met elsewhere: the skilled and articulate Roger Swain, Patti Hagan, Henry Mitchell, Eleanor Perenyi and Ann Lovejoy. He includes, too, a touching essay, "Tendrils to the Heart," by Anne Raver of *Newsday*, a Long Island newspaper. Raver writes about trying to buy a Father's Day gift for her super judgemental father, with the smarting perception that she is her father's least favorite child. Her gift of a *Clematis paniculata* put her into the game with her father and the honest weaving together of the tale of plant and father led me to pick up the phone and ask her if she'd join the *Green Scene* family as a writer. "Delighted to," she said. We look forward to hearing from her.

I regret that Allen didn't include any of his own wonderful columns from either the *New York Times* or his old *Wall Street Journal* days. Yet we are grateful that he has put together this nifty collection of "why" and "what," which so often gets overlooked in the concentration on "how-to." It's rather nice to know that we are creating this history of garden writing as well as of gardening as we go along.

Lacy dedicated the book to Elisabeth Woodburn, the doyenne of gardening books, who believes along with Lacy, that American gardening literature is woefully undervalued. Woodburn, who was awarded the 1989 PHS Distinguished Achievement Medal, and who serves on the PHS Library Committee has written: "Do you suppose a hundred years from now if people read our garden and conservation books they will look back and say 'They reflected the spirit of the time which saved us,' or will they say, 'Why didn't they read the books that told them how it was?'"

photo by Lawrence B. Thomas



Lawrence B. Thomas's 11th floor New York City alpine garden with hand-built and hand-thrown containers.

Jefferson's letter in 1805 to Madame de Tesse in France down to Henry Beetle Hough's charming 1985 essay about some pink lilies of the valley that his wife transplanted from Uniontown, Pa. to Martha's Vineyard.

*The American Gardener* is Allen Lacy's spirited response to an essay by Michael Pollan that appeared in *Harper's Magazine* (May, 1987) stating that Americans were too influenced by British garden designers and their literature, and that they have produced no great American gardens or gardening literature. Although Lacy does not dispute that the British writers and gardeners deserve their awesome reputa-





# *Produce From Bucks County to Philadelphia's Best Restaurants*

 *By Jane G. Pepper*

***Quality products, diversity, good planning and savvy marketing keep Branch Creek Farm proprietors busy year-round.***

**I**f you order a salad in one of Philadelphia's four-star restaurants, chances are the greens will come from Branch Creek Farm in Bucks County. The presentation may include small heads of Tom Thumb lettuce combined with Japanese red mustard, arugula and perhaps a smattering of baby sorrel, decorated with nasturtium and borage flowers.

Mark Dornstreich is a late 20th century truck farmer, a survivor in a land where commercial development creeps closer to his 21-acre farm each year. "No longer," says Dornstreich, "can you make a living from this size farm by growing summer crops of tomatoes, peppers and lettuce." Flexible, adaptable and as much savvy marketers as growers, Mark and his wife Judy have, over the past 10 years, built a

successful business that serves a special niche.

Judy and Mark, and their co-workers Ken and Anna, grow organically, but this is not their chosen market niche, nor the thrust of their marketing to the restaurant trade. "Top quality," says Dornstreich, "is the keystone of our business." And when you see the neatness of their operation and watch the care with which they grow, harvest and pack their herbs and vegetables you understand the difference between quality produce and the variety often available in the supermarket. He also emphasized the importance of crop diversity. "Our chefs," Dornstreich said, "are always looking for something new, so we continue to experiment."

The first time I visited Mark and Judy it was late summer and they barely had time to chat. With six acres of vegetables, 3/4 of an acre of herbs and 3,500 sq. ft. of greenhouses to watch over, plus all the packing and delivery activities, every daylight hour is precious to them. In late August they were harvesting the last of the summer crops, tomatoes, eggplants and peppers across the small stream that runs through their property. Closer to the house, fall crops of broccoli and salad greens and masses of herbs flourished.

When I returned in February the whole

growing operation had moved indoors, into three hoop-shaped greenhouses covered with double layers of polyethylene. In the houses they start some plants such as Tom Thumb and Summer Baby Bibb lettuce in flats, then transplant them into 12-inch-deep ground beds. Inside and out, during the winter and spring months, Dornstreich and his colleagues grow some 8-10,000 heads of lettuce.

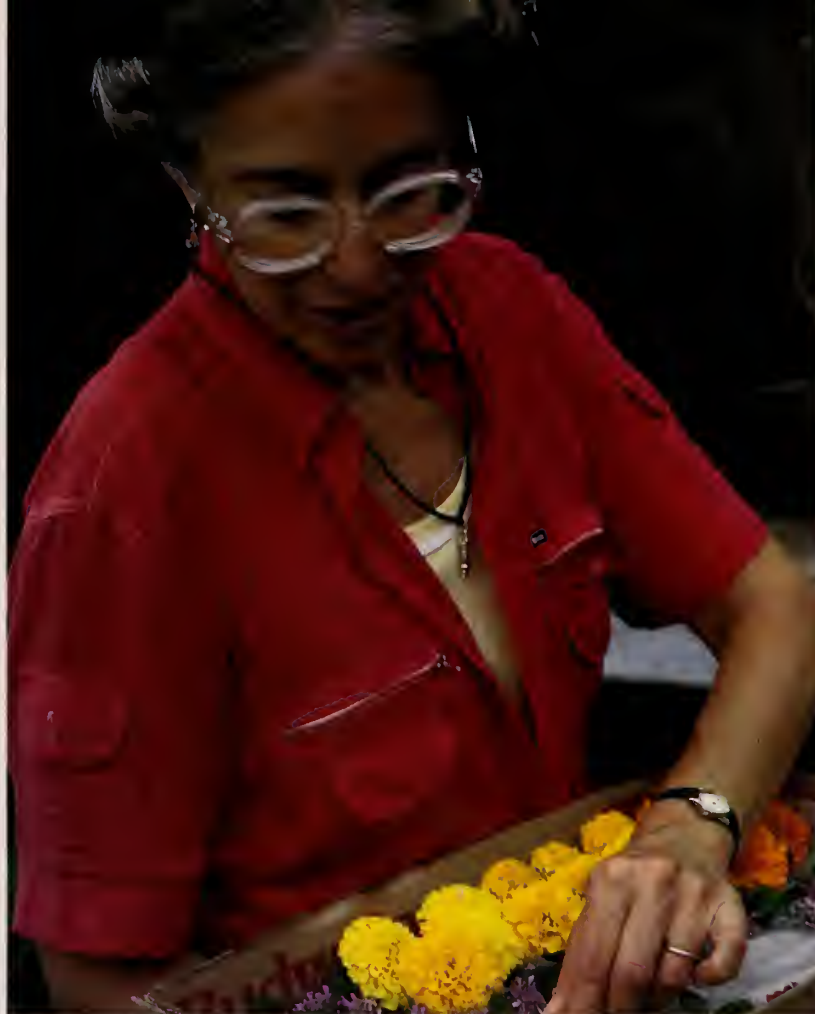
Seeds of other salad greens such as arugula and mustard are grown in shallow plastic flats or ground beds for cutting about a month after sowing as tiny, succulent leaves for that very special salad, so far removed from the standard mound of Iceberg lettuce topped with a dollop of blue cheese dressing.

Once the weather warms, Dornstreich moves outside, planting cole crops, sugar snap peas, his favorite variety of snap bean, More Gain, and so into the summer with squash, which he harvests when tiny, as well as tomatoes, peppers and eggplants. "In summer," he says, "our chefs might be satisfied with some of the vegetables they can purchase at the produce market, and it's hard for us to turn much of a profit on these items, but it's important to offer these chefs a wide variety of products so they continue to think of Branch Creek Farm when they're making up their orders."



△  
Top left: Mark Dornstreich pulls some of the broccoli harvest in a cart to a truck going into the city.

At right: Mark takes a ▸  
moment from a busy harvest to show his daughter Eva some squash blossoms he's just collected.



photos by Mary Lou Wolfe

▽ At left: Judy Dornstreich arranges boxes of edible flowers for restaurant clients.



*Inside and out, during the winter and spring months, Dornstreich and his colleagues grow some 8-10,000 heads of lettuce.*

"Continuity," he went on to say, "is so important to chefs because each day their customers expect them to produce the best meal, something they cannot do without good produce."

A wide variety of products includes providing herbs and edible flowers for decoration. In spring and summer, you'll find basil, tarragon, dill, mint, parsley, sage, thyme and rosemary growing outdoors. In a greenhouse where the temperature may go as low as 45°F at night, it's not practical to grow herbs such as tarragon and basil that flourish in balmy climes, so they stick with those that prefer it cooler: rosemary, thyme, sage, oregano, parsley, chervil and coriander. The latter three are grown in ground beds for cutting at regular intervals throughout the winter when the stems are about three inches tall. A couple of weeks later, the Branch Creek farmers are able to cut another crop. Herbs such as rosemary, thyme and sage are grown in pots for periodic cutting throughout the winter.

*continued*



***A greenhouse is the ultimate barrier. Outside if I tried to grow mustards and arugula they'd be pocked with hundreds of tiny holes, courtesy of the flea beetle. Inside the leaves are almost perfect.***

photo by Mary Lou Wolfe

photo by Mary Lou Wolfe



Pam Owens cutting chives, which are usually collected around 6 a.m. During the heat of the day, three to five people will work indoors for about three hours to clean and package more than 12 pounds of chives for delivery.

then they put these same plants outside for summer cutting. "Good overwintering conditions for the herb plants are important," Mark says. "If a homeowner loses a couple of plants during the winter it's easy to replace them by making a trip to the local garden center. For us it's devastating because there's no way we could find — nor afford — a lot of large plants.

The Dornstreichs built a new greenhouse last summer primarily to see if they could produce a significant herb crop throughout the winter. More successful than the herbs, however, has been their greatly expanded crops of winter salad greens. In previous years, they had to drop several of their clients each fall because they couldn't produce enough salad greens from the two greenhouses to satisfy demand. Each winter they risked losing these restaurateurs to a year-round market.

Around the fringes of all three greenhouses are small bright patches of flowering plants. "Flowers of all culinary herbs," says Mark, "are edible, but not everything works on a plate." Nasturtiums are a standard and if your salad comes from Branch Creek Farm you may find it decorated with yellow, orange or deep red nasturtium flowers. Johnny-jump-ups, so pretty with their little multi-colored flower faces, grow in hanging baskets, and huge plants of borage are grown in ground beds for their blue flowers. Pineapple sage has



Branch Creek Farm produces five varieties of the small squashes that range from one to 3 inches. They usually deliver 1-2,000 squashes per order.

always been a popular herb for its leaf; by mistake the Dornstreichs let it go to flower one year and have been inundated ever since with requests for the bright red flowers for decoration.

#### ***new products***

In their search for diversity the Branch Creek farmers comb seed catalogs for new products. Last winter the winner was baby sorrel, which they sowed in flats for cutting when only a couple of inches tall. Many issues enter the complicated equation as to whether a new item will be successful. Besides the obvious marketing questions as to whether the chefs demand it, are questions such as how fast will it grow and how expensive is the seed. When you're sowing hundreds of pounds of vegetable seed each year, this can be a significant determinant. Most of us are used to purchasing one-

quarter ounce of any given small seed. At Branch Creek Farm they purchased five pounds of arugula seed alone last year.

Taste-testing the plant at all stages is also important. Take sorrel, for example. When the leaves are fully developed, they're strong in flavor and fibrous, making them ideal for soup. When the leaves are only a couple of inches tall, they have a pleasant tang and are succulent — just right for combining with tiny lettuce leaves, red mustard and arugula in a delicate salad.

Although Dornstreich doesn't market his produce as organic, he grows organically, which to him means the absence of chemical pesticides, herbicides and fertilizers. To curb insects outdoors he uses naturally occurring pesticides such as pyrethrum and rotenone. Inside the poly houses he rejoices at the ease with which he can control insects in the greenhouse. "In





Rosalind Creasy, who wrote *Cooking from the Garden*, and *The Edible Landscape*, was invited East to do the Philadelphia Cook and Book event, with the Reading Terminal Market in March. David O'Neil, manager of the Reading Terminal, selected Judy and Mark Dornstreich as the foremost suppliers of the more than 3,000 plants, including salad greens, herbs and some flowers that made up the edible 12 ft. x 12 ft. crazy quilt at Creasy's station that day. Rosalind Creasy is shown here in the center of the quilt.



An October crop of lettuces in one of the poly houses. The baby salads are sown throughout the year for a succession of harvests; the larger lettuces are sown and harvested in spring and fall.

the magazines today," he says, "you read about the virtues for the home gardener of horticultural fabrics such as Reemay which act as barriers against pests instead of using pesticides." "A greenhouse," he says, "is the ultimate barrier." "Outside, he says, "if I tried to grow mustards and arugula, they'd be pocked with hundreds of tiny holes, courtesy of the flea beetle. Inside the leaves are almost perfect."

According to Mark the organic gardener's biggest challenge is maintaining productive soil. At Branch Creek Farm they practice strict crop rotation, never growing crops in the same family in the same

location two years in a row. Each fall he sows cover crops, which he turns under the following spring. His cover crop mixture is five parts winter rye to one part vetch. The former provides substantial growth, which makes plenty of bulk organic matter when turned under; the latter is more delicate, but since it's a legume it has nitrogen-fixing root nodules, which provide significant nutrients.

For the greenhouses, he makes bushels and bushels of compost using leaves from the local municipality (40 to 50 tons each year) and manure from a local horse farm. For sowing some seeds, he purchases steril-

ized compost to ensure that it's weed-free. When you're growing crops for harvest by scissoring you can't afford to market weeds along with the arugula and red mustard.

Check out the salad fixings next time you're treated to an elegant dinner in Philadelphia; if they look too good to be true, and taste even better, ask if they come from a farm near Blooming Glen, PA.

Jane Pepper is president of the Pennsylvania Horticultural Society. She writes a weekly garden column for the View section of the *Sunday Inquirer*.



# THE TRUST ME GARDEN



By Mary Lou Wolfe



The crane is positioned to start moving the rocks into place. The crane operator, unable to see where the rocks would land, depended on hand signals, smiles and eye contact from the project team that included Claire Müller. A lot of trust was required. (See back cover for part of the rock garden in place.)

photo by Claire Müller





Joseph Halda (right), Jack Blandy (back to camera) and Ray Yorden (plaid shirt) maneuver a difficult stone into place.

***Building “the most outrageous rock garden on the East Coast” required five-ton rocks, a 20-ton crane, tearing out trees 50- to 100-feet high, and trusting a designer’s work no one in the area had seen. Here’s a gardening suspense story.***

Claire and Otto Müller think big. They live in a huge converted stone barn; both are over six-feet tall; they hop continents often; are fluent in several languages and are intense about their hobbies. Otto, a cardiologist, relaxes with music, loving especially classical duo piano. Claire, a registered nurse, now pours much of her energy into gardening. She is well known in rock gardening circles for the prize-winning alpine and succulents that she grows in her cool greenhouse and for her imaginatively planted two-and-a-quarter-acre garden near Ridley Creek in Delaware County.

When Claire joined 600 other rock gardeners in Denver in 1986 for the Second Interim International Rock Garden Plant Conference, she had no idea that her own Delaware Valley garden would be so drastically affected by a friendship forged there. At meetings like these the real

learning often takes place during pre- or post-conference trips. Claire’s post-conference outing took her by car from Denver to Oregon with two women friends and one fortyish Czechoslovakian mountain climbing plantsman. He was Joseph Halda, and he needed a ride to Siskyou Nurseries in western Oregon. Halda, trained in botany, writes about and introduces plants, especially alpine. His plant explorations take him to Rumania, Bulgaria, Yugoslavia, Turkey, and Greece. So he was eager to compare western European and middle eastern habitats with those of America’s West. Halda did not speak much English but all four passengers enjoyed botanizing on the 10-day trip.

Before returning to Czechoslovakia, Halda spent several days in the Delaware Valley visiting outstanding rock gardens like Roxie Gevjan’s, Anita Kistler’s, Lee Raden’s and Claire and Otto Müllers’.

Claire and Otto had a fall trip planned to Germany and visited briefly with Joseph in East Berlin. The friendship between Joseph and the Müllers flourished.

#### *a letter to Prague*

Later that fall when the Müllers returned from Europe, they decided to enlarge their pool house. The subsequent construction destroyed the adjoining garden. Bulbs, rock plants and choice conifers were covered with fill or uprooted but the building was finished, as promised, before Christmas. When the Müllers visited their good friends Kurt and Hannah Bluemel on Christmas Day in Maryland for garden talk and piano duos, Claire was heartsick about her garden. In a burst of Christmas cheer Kurt and Claire penned a note to Joseph asking him to redo Claire’s garden and to come to the United States by St. Patrick’s Day, 1988. They offered to provide documentation and the required guarantees for his visit. Joseph Halda in Prague had no phone and was a terrible correspondent. They did, however, receive a January postal: “Am trying. Hope to make it. Joseph.”

On the basis of that succinct postal, arrangements were made for prepaid transportation from Prague to Washington, D.C.

Meanwhile in those early months of 1988, with scant hope that Joseph could

*continued*



*It took a lot of faith to proceed with a designer whose work had never been seen and whose communications were delivered uncertainly with gestures or in Czech, German or scanty English.*

come, Claire had begun talking with local nurserymen Jared Berd and Matthew Kistler about how to undo the mess left by the building project. Claire knew that she needed a low-maintenance garden that would provide a safe approach down a rather steep hillside to her pool house and swimming pool below. Jared Berd mentioned a quarry behind the Linvilla Orchard (between Media and Chester) where he had seen some great Pennsylvania fieldstone that would harmonize with the stone of the massive 250-year-old Müller barn. Claire had not had time to investigate the quarry and at the end of the Philadelphia Flower Show had also contacted nurseryman Jack Blandy (formerly of Rose Valley Nurseries) for ideas about her project.

On March 17, still no word from Joseph. Hannah Bluemel was able, however, through friends, to verify that Halda was en route and met his flight at Dulles Airport. Stunned and delighted with the news that Joseph had actually arrived, Claire pulled together a “welcome” dinner party and invited Jack Blandy to meet Joseph. Over dinner Jack drew some sketches, showed them to Joseph, but didn’t get much reaction from Halda. Communication was difficult. There was really no plan, no budget, little exchange of ideas and only “right now” for the timetable. Joseph’s visa allowed only a short stay.

On the following day, Kurt Bluemel and Joseph visited the quarry acting like two kids loose in a candy store. Claire had talked with quarryman Ray Yorden saying, “Whatever Joseph wants he can have. Give him a yellow pencil (the keel chalk used to mark rocks) and let him go at it.” The rocks Joseph marked were the ones Jared Berd had seen. They had been sitting untouched for decades because, blasted loose long ago, they were too big for the quarry’s main product, crushed stone. They were unmarred, weathered and each one weighed from one to five tons!

### *an act of faith*

It took a lot of faith to proceed with a designer whose work had never been seen and whose communications were delivered uncertainly with gestures or in Czech, German or scanty English. He did indicate with a sweep of his arm, that a number of trees would have to go to insure a view of a distant pond on the Müller property. He



Claire Müller atop the steps that were once Brookhaven street paving curbs.

was adamant that the garden must have light, water and movement. What happened in the following weeks was a never-to-be-repeated mix of fast, expensive decisions, long days of hard work in warm, sunny weather, patience, cooperation, and a lot of trust. Ray Yorden masterminded the mechanics of moving the huge boulders from his quarry to the Müller property. A crane was required to hoist the boulders from the quarry’s flatbed trucks to the hillside site. A 20-ton crane with a 40-foot boom came rumbling onto Otto’s front lawn. Because of the uneven grade the crane had to be extensively braced with large timbers. The lawn, of course, became a disaster area, and Otto was aghast. Realizing that five-ton rocks would have to swing over his new roof and be dropped out of the crane operator’s line of sight, Otto took the opportunity to complete some business in Seattle. Quarryman Yorden, with a chuckle, suggested that Dr. Müller leave his checkbook at home.

It was fortunate that Otto went to Seattle for not only did he delight in his lawn but he

relished the view of mature trees that had grown on the hillside sloping toward the distant pond. With Otto winging west Joseph proceeded to clear that hillside of five or six trees that topped out at 50 to 100 feet. Nurseryman Blandy brought a helper and a mechanical chipper to process the brush cut from the hillside. They dug out salvageable conifers, burlapped them and moved them away from the crane’s target zone.

### *artistry in stone*

The weather in late March and early April of 1988 was unusually balmy. The sunny, dry days were perfect for this project that had no days to spare. Because of the expense, there was pressure to use the crane efficiently. Joseph would select a rock that had been trucked in. The crane operator would hoist it, unable to see where it would land but relying on signals from Joseph, Claire and the crew. In most constructed rock gardens the largest stones are placed at the bottom of a slope. Joseph was directing these monsters toward the top of



*Realizing that five-ton rocks would have to swing over his new roof and be dropped out of the crane operator's line of sight, Otto took the opportunity to complete some business in Seattle.*



photo by Mary Lou Wolfe

Now comes the easy part; Claire Müller relaxes and enjoys an early March bloom (*Anemone pulsatilla*) in her garden.

the slope. There was a lot of "Trust me" delivered with direct eye contact and a big smile. For each stone, an excavation half the size of the rock had to be dug. Dollies, "come-alongs" and crow bars were used to maneuver the stones to Halda's satisfaction. Although there was still no plan on paper, the solution for the hillside was evolving in Halda's head. It required that each major rock be placed so the strata (in these granites, wavy lines of Baltimore gneiss) were consistent. It is this subtle consistency worked in large and small scale that Claire cherishes and now calls "artistry in stone."

When quarryman Yorden saw how Halda was using the huge boulders, and as he began to get the drift of his plan, he realized that the perfect solution for the wide, substantial steps Claire had requested was stored at the quarry. Some years before, Yorden had acquired granite street curbing being replaced in Brookhaven, Delaware County. Each piece of curbing was 5- to 8-feet long by 2- to 3-feet wide and at least 6 inches deep. Some curbing slabs still carried the yellow paint used to

designate "No Parking" areas. Yorden had these hauled in and tentatively placed to link two levels of the hillside. Two pieces of curbing were so massive and handsome that Claire determined they should be used as benches, one at the top of the hill, one halfway down where the steps turn toward the pool house. One granite step was positioned with the yellow painted side out to remind visitors of its earlier highway use. When step placement satisfied Claire and Joseph, the uprooted dwarf conifers were planted at the ends of steps as the heavy stones were crowbarred in and leveled. These small junipers and mugo pines softened the steps and gave them a graceful, settled look. A light watering each evening and a damp burlap cover by day protected the conifers from the strengthening April sun.

#### *skipping the seating*

Directions for creating a rock garden from scratch always recommend removing top soil to a 12- to 18-inch depth and refilling this space with a mix of coarse

gravels. This contributes to the good drainage alpine plants need and helps to "seat" the rocks. Joseph skipped this stage, putting the 12 to 18 inches of coarse gravel on top of whatever grass was left on the hillside with no disturbance of the soil beneath. With the multi-ton boulders placed high on the hillside and steps installed, Halda led the crew in a technique he calls "crevice gardening." Ray Yorden supplied many 20-ton truckloads of granite grit, transported from the top of the hill by wheelbarrow to be dumped as each rock was placed. After the drainage layers and medium-sized rocks were in place, Yorden supplied more truckloads of a mushroom soil/granite grit combination mixed at the quarry. This was forcefully tamped with crowbars into each crevice between rocks.

While weeks of this intense construction went on, Joseph was satisfying a tremendous appetite for foods unavailable at that time in Eastern Europe. He enjoyed bananas and had such a craving for fresh tomatoes that Claire resorted to ripening them by ten-pound lots under her greenhouse grow-lights. Joseph ate them three times a day. Claire, with her nursing background, explained Joseph's craving for fresh fruit as a need to replace potassium lost while working on that hot hillside.

As the construction moved downhill, Joseph directed the selection of what turned out to be 18 tons of smallish stones with square edges. Claire describes these as similar to Belgian block but much bigger and of uneven lengths. Paying careful attention to sharp edges and to surface slope, these were installed below the area where the steps turned. The effect is that of a large rock face that experienced some violent natural force, scattering smaller stones below.

In the turn area the path comes close to the pool house and proved to be one of the most challenging parts of the undertaking. To assure good drainage near the house, 2-inch PVC pipe was laid, providing continual dispersment when it rains. This was covered with 3-inch diameter drainage rock. This under-eave treatment and the huge boulders bordering the walk give a serene, Japanese look to this area. The paving curb bench placed there is a favorite sitting spot of Otto's and often is a stage for choice potted alpine specimens or troughs. Otto has softened the stark look of this area

*continued*





Otto Müller's favorite spot in the garden is now on the curbing stone bench from which he can enjoy the sweep of the garden.

### Rock Garden Building in Three Languages

English	German	Czech.
Stone	stein/fels	Kámen
To prune	beschneiden/baume schneiden	Ostřihati
Gravel	kiess/split/bruchsteni schotter	štěrk
Trust me	schenke mir vertrauen	duvěra
Strata	schicht, schichtung	
Light	leicht, licht	světlo
Water	wasser	voda
Movement	bewegung	nohyb
Boulder	fels	skála

by planting various hostas.

The days with Joseph were intense and full of creativity, great meals and good company. By the time his vacation visit was over, Halda and the Müllers could stand at the top of the hill and enjoy the view of a distant lake through a drastically thinned forest. There was light, and the curve of steps and placement of rocks gave a kind of movement. Looking up the hill from the lower edge of the rock installation one can easily imagine that natural forces positioned these rocks. We know it was the power of *trust*.

A garden like this begs to be planted. Joseph was able to return in 1989 to attend the American Rock Garden Society's Winter Study Weekend in Pittsburgh and to visit fellow plantspersons. At the conference, Panayoti Kelaidis, curator of the alpine rock garden of the Denver Botanic Garden, supplied Halda with seeds of many western plants, which he sowed in February directly into the crevices of the Müller garden. Claire was laid up with a leg injury so couldn't participate in the planting and was actually dubious that direct seed sowing would work. Her experience had been that strong northeastern downpours washed the seed away. Because of the careful way the rocks had been placed, the seeds held firm and germinated sending down roots at least 10 inches long. Claire finds most of these western plants pleasing but will remove some that now seem out of scale. She has found that her hillside is a hot garden because of its orientation and the heat-retaining qualities of rock. She designed and installed a watering system; using PVC pipe, T-bars and water dispersing heads with 180° coverage, her system cools the rocks, is inexpensive and easily drained in the fall.

What Jack Blandy wrote to Claire after helping with the garden installation in 1988 sums up this garden in a beautiful way: "I have enjoyed very much your enthusiasm in the creation of the most outrageous rock garden on the East Coast. It has been my experience that the best garden comes into being when the owner is not only enthused but totally committed . . . It is my hope that you will have a sense of joy in the coming years when you live in this space and remember its birth. I think that Joseph would agree that 'It is good.'"

●

Mary Lou Wolfe is a frequent writer/photographer contributor to *Green Scene*.



# GROWING ALPINES IN THE CITY

## Container Gardening on the 11th Floor



By Lawrence B. Thomas

I grow rock garden and alpine plants high on a windy city terrace, a task some of my in-ground gardening friends consider Sisyphean. Remember Sisyphus; the legendary King of Carinth who was condemned to an eternity of pushing an oversized boulder up a hill in Hades, only to have it roll down every time he neared the top. At times, I'm tempted to agree with my friends, yet I've had enough successes to keep me trying.

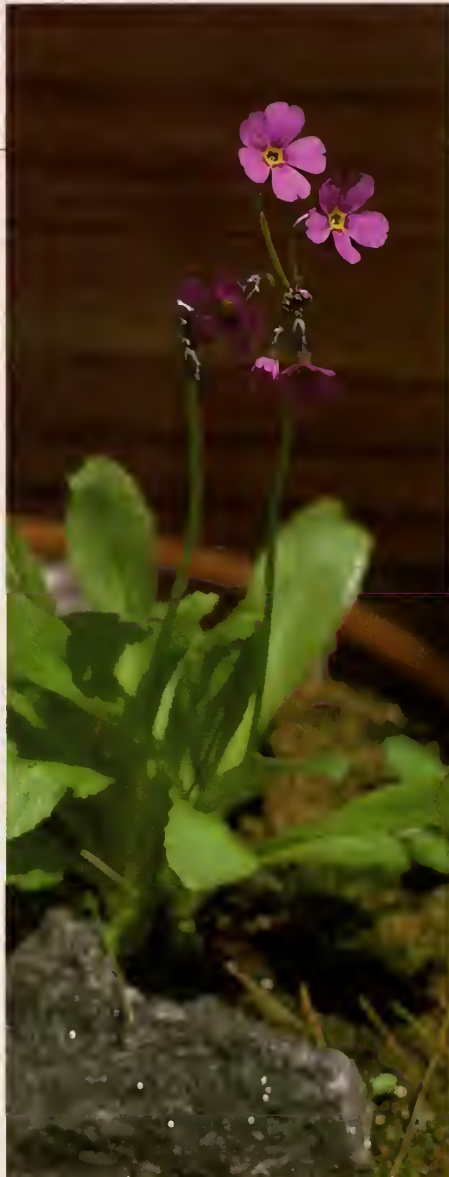
Alpines, as you probably know, are those hardy little perennials that usually grow above tree-line in exposed mountainous situations. They flower and seed profusely in the short five to six weeks of summer at that altitude before snow comes back to cover everything.

Unlike my ground-level friends who garden in proper rock gardens, I grow my alpine treasures in containers — strawberry pots, bulb pans, raised troughs, and planter boxes. Fortunately, some, certainly not all, of the alpines adapt readily to the constraints of container growing, for in their mountain aeries they're accustomed to a hard scramble for life, sending their roots deep into rocky crevices for anchorage, moisture, and what little sustenance they can find. By comparison, my babied beauties have it easy.

Still, it is a challenge to coax these snooty little high-altitude beauties into bloom at a lower level e.g. my 11th floor terrace, for in their full glory, studded with gem-like flowers that dazzle the eye and delight the soul, alpine plants are as irresistible as they are fickle. Some of them can tame and shame the best of gardeners with their stubborn refusal to live on any terms save their own.

Few plants are more ravishing than our Rocky Mountain native *Aquilegia jonesii*, a two-inch-high columbine that thrills us with royal purple blooms in the mountains, yet dares us to bloom it at sea level. Or shy little *Viola flettii*, restricted to the rain forests of Washington's Olympic Range, less rampant and far more beautiful than its lustier sisters of the violet family. Or consider the challenge of finding and growing a true form of *Campanula raineri*, an endearing bellflower of Italy's Dolomite

photo by Lawrence B. Thomas



*Primula ellisiae*, a native endemic to New Mexico Rockies (allied with *Primula parryi*).

Alps whose radiant blooms can make one's heart skip a beat. Or think of celebrating early spring in February with a foot-wide mound of *Draba mollissima*, a member of the mustard family whose shrill yellow blossoms completely blot out the downy gray skullcap of its foliage. Or who could resist embarking on a lifelong love affair with *Gentiana verna*, promising the gardening gods anything if they will only let it bloom that electrifying blue one more time.

Any one of these alpines can challenge — and sometimes humble — the most skilled of gardeners. Yet who could resist the challenge of growing such alluring beauties? Certainly not I.

There's something downright addictive about being able to get close enough to one's plants to examine them in detail. Benched pots and raised troughs allow one to explore these alpine treasures up close, to marvel at nature's engineering skill when designing the tight little buns that hug the earth, impervious to wintry winds; the grayness of the foliage that absorbs the warmth of the sun; the tiny hairs on the leaves and stems that gather and hold moisture, yet keep the crown of the plant dry; the incredible jewel-like flowers with their Day-glo bursts of color that tempt any passing insect to try his foot at pollination.

Because the plants themselves are rarities, and there are few nurseries willing to cultivate enough stock, most gardeners ultimately accept the challenge of growing alpines from seed obtained from seed exchanges maintained by rock garden groups around the world. This is a labor of love that, depending on the plant, may take two to five years from germination to bloom... and investment in time and effort that one can only rationalize with the proud boast: "I grew it from seed." That is reward enough.

For those who become addicted to the unusual, rare, or difficult plants, the seed programs are a treasure trove, for much of the seed is available nowhere else. Thanks to the daring of adventurous alpine gardeners who scale the heights of the world not only to see the sights but because that's where the seed is, we can choose from an almost endless variety of rare plants — over 5,000 from the American Rock Garden Society's Seed Exchange alone. The British and Scottish societies are equally good sources.

### troughs

Rock gardeners are a proud lot, and they'll search out the finest hand-thrown pots in which to showcase their prized plants. Others build troughs. The scarce and highly prized originals probably were livestock watering tanks carved from stone, and so heavy that they reduced strong men to tears when they had to be moved. Modern-day rock gardeners have devised a lighter substitute constructed of "hyper-

*continued*





*Saxifraga* and *Gypsophila* in bloom in a city high-rise trough.



Low-growing dwarf *Pinus* species anchors top of trough. To its right, a mat of *Draba rigida*. Rock in center is flanked by *Androsace sempervivoides* at left and large mat of *Dryas octopetala* 'Minima' at right center. Bottom row, from left to right, *Saxifraga paniculata* 'Minima', *S. x* 'Cockscomb'; and *Eunomia oppositifolia*.

### Fibermesh for Troughs

Information on the polypropylene reinforcement used in making the troughs described in the article can be obtained from Fibermesh, 4019 Industry Dr., Chattanooga, TN 37416. Telephone: (615) 892-7243. Ask for distributors in your area. The product comes in different lengths. We used ½-inch length, which we obtained for \$8 for a 1 ½-pound bag. L.B.T.

tufa" over a chicken-wire armature for strength. The recipe of the late H. Lincoln Foster, dean of American rock gardening, called for one part Portland cement, 1½ parts Perlite, 1½ parts milled sphagnum peat moss. More recently, I have built troughs successfully of equal parts of the three ingredients, plus a handful of a polypropylene plastic called Fibermesh for reinforcement instead of the unwieldy chicken wire. Using Fibermesh instead of the wire effectively reduced the weight of the trough by 13 to 14 ounces; it is said to have the same strength as structural steel.\*

\* Also see "Troughs: Making Them Light and Portable" by Jane Pepper, *Green Scene*, Sept. 1982, p. 14-15.

Properly molded and cured, artificially aged, and lovingly planted with choice alpine, these troughs are a sure show-stopper. Some of you may remember the display of alpine troughs mounted by the Delaware Valley chapter of the American Rock Garden Society at the Philadelphia Flower Show three years ago. I — and many others — still think of that as one of the best trough displays ever put together.

***The slugs I take care of with frequent "search and destroy" missions, armed with a jar of salt water and a vengeance that would make Rambo blush.***

Planting a pan or trough is a challenge to one's sense of scale and proportion. One must know, or research, the growth habits of the plants and choose accordingly. Ideally, you want dwarf and slow-growing types that will stay in position for several years without outgrowing the shallow container.

Your choice of plants is limited only by your imagination or your sources, for there is an endless variety of every shape, color and size: tiny, mat-forming *Erodium*, members of the true *Geranium* family; cunning little dwarf conifers that hug the surface of a rock and contour themselves to its shape; choice *Campanula* that virtually bloom themselves to death; *Dianthus* species that form tight hard buns and bloom in delectable ice cream colors; dwarf *Aquilegia* whose four-inch height can hardly bear the weight of their massive blooms; *Androsace* species that will challenge the most skilled of gardeners, plus others that are virtually carefree and foolproof.

One of the prime virtues of container gardening is that it allows you to tailor a soil mix to the individual needs of the plant. Be it lime-lover and lime-hater, you can put together a soil mix, which, if you're lucky, will please all but the fussiest. With alpine, the question of drainage is of prime importance, as is the lightness of the soil. Some alpine grow in rich mountain meadows. Others scabble for existence in rock crevices, their roots inching into minute cracks as they search for foothold and nourishment. Others grow in almost pure scree-deep gravel beds of rock that have been pulverized by wind, rain, and glacial action. Whatever the habitat, the soil is certain to contain a high percentage of rocky rubble, providing sharp drainage and aeration for the roots of the plant. A heavy soil is the path to disaster with



alpines. Likewise, too-rich soil will lead to rampant undesirable plant growth.

My basic soil mix consists of equal amounts (by measure) of topsoil, peat moss, perlite, and chicken grit (when available; if not, I use the smallest size gravel or pebbles I can obtain). If I know a plant requires a limy soil, I add a small amount of horticultural limestone to the mix, though I have found that many lime-lovers will adjust without it. For plants that require an even lighter mix, I cut the proportions of topsoil by half, replacing it with sharp sand or added grit. Conversely, for acid-loving primulas and ramondas, I increase the peat moss.

Most container-grown alpines appreciate a top mulch of stone, pebbles, or grit. Some, such as *Lewisia*, the choicer *Campanula*, and the tiny bun-forming *Androsace* positively require it, for they will rot off quickly at the crown if not kept high and dry. Along with the top dressing, the inclusion of some larger rock shards helps create a naturalistic topography to the trough or pot. Be the rocks granite, sandstone or the highly prized, water-sculpted limestone called *tufa*, the rocks create both visual interest as well as a microclimate that offers shade to some plants, cool root runs to others, and warmth to those that nestle against the hot stone face. The final top dressing of chicken grit or pebbles helps anchor the plants, and prevents their being washed from place by driven rain or careless watering.

### problems

Problems? Yes, there are a few, headed by bugs, slugs, the muggs. Insect life I've confronted consists of aphids, ants, slugs, and on occasion, soft brown scale. Since I have two cats that forage my terrace constantly for green roughage, I use almost no sprays and no poisons. I inspect daily and take care of the aphids with judicious use of my thumb and forefinger. I've cleared scale off *Saxifrage kabschia* by drenching the pot and plant in Ivory suds, then picking the scabby creatures off with a toothpick. The slugs I take care of with frequent "search and destroy" mission, armed with a jar of salt water and a vengeance that would make Rambo blush.

The ants are more of a problem, and one I've not fully solved, despite using several types of baits and traps. Tiny black ants enter my pots through the base hole, often setting up camp inside, and are not discovered until the plant has begun to yellow. I don't have a solution other than to suggest growing as wet as possible without rotting off the plant. The ants like a dry soil, and

photo by Lawrence B. Thomas



Strawberry pots containing both *Campanula elatines* and *C. garganica*.

frequent watering and inspection by lifting the pots seems to discourage them more than any of the baits I've tried.

The dreaded summer muggs, those incredibly hot and humid days of July and August when the air is so still and sodden you can almost touch it, can turn prized alpines to mush literally overnight. The only solution I know of is a good stiff breeze, a constant flow of air. If you've the will and determination to protect your plants do as I did last August: move your cherished plants indoors and put them under a round-the-clock fan until the humidity and temperature break.

Birds constitute a sometime problem, primarily in the spring. While delighted by them, I've still been plagued by hordes of house finches and an occasional starling that think I set the finest table on the block. They can make short work of the finest alpines, shearing off all blossoms on some, picking apart cherished bun plants from curiosity, sheer spite, or simply in search of insect life or nesting material. The solution? Anything that works — berry netting to plastic owls to plastic windmill whirligigs that glint and glitter and scare them away.

I hope I haven't discouraged you by detailing the challenges as well as the pluses, but growing alpines involves real work: skilled growing techniques, and constant, watchful care to bring the plants to the perfection they so easily attain in the wild. But it's a challenge any gardener worth his salt is willing to take. For those of you who've finally discovered that "bigger isn't necessarily better," maybe it's time you joined us mini-gardeners who've discovered that poet Robert Browning had it right all along when he declared that "less is more."

## Some Alpine and Rock Garden Plant Sources

Siskiyou Rare Plants  
2825 Cummings Road  
Medford, OR 97501  
Catalog: \$2.00

Rice Creek Gardens  
1315 66th Avenue N.E.  
Minneapolis, MN 55432  
Catalog: \$2.00

Montrose Nursery  
PO Box 957  
Hillsborough, NC 27278  
Catalog: \$1.50

Colorado Alpines, Inc.  
PO Box 2708  
Avon, CO 81620  
Catalog: \$2.00

Rocknoll Nursery  
9210 U.S. 50  
Hillsboro, OH 45133-8546  
Catalog: 50¢ in stamps

Rocky Mountain Rare Plants  
PO Box 20483  
Denver, CO 80220-0483  
Catalog: \$1.00

The Primrose Path  
R.D. 2, Box 110  
Scottdale, PA 15683

## For More Information About Alpine and Rock Gardening

American Rock Garden Society  
Sandra Ladendorf, President  
123 High Hickory Road  
Chapel Hill, NC 27514  
Membership \$20

American Rock Garden Society,  
Delaware Valley Chapter  
Joyce Fingerut  
2106 Pennsylvania Avenue  
Fort Washington, PA 19034

Alpine Garden Society  
The Secretary  
Lye End Lind, St. John's  
Woking, Surrey, England  
Membership \$15

Scottish Rock Garden Club  
Miss K.M. Gibb, Secretary  
21 Merchiston Park  
Edinburgh, EH10 4PW, Scotland  
Membership \$20

Lawrence B. Thomas gardens on an 11th floor terrace in New York City. He is the founder/ chairman of the Manhattan chapter of the American Rock Garden Society.



# Renny, The Perennial Farm



By Robert J. Salgado

photos by Robert J. Salgado



Pergola in the midst of perennial beds is used to shelter ornamental plants. Plant in foreground is fountain grass (*Pennisetum alopecuroides*).

**H**idden on an obscure road in the rolling countryside of Bucks County, near New Hope, is a new resource for perennial gardeners and others interested in rare and exotic plants.

Renny, the Perennial Farm, was established last year by a New York florist whose East Side shop is known simply as "Renny." While chic New Yorkers may know Renny Reynolds as someone who can make their galas memorable, it is the perennials established for him by Kent Russell, who formerly worked for him, that bring the customers to the farm on Thompson Mill Road in Wrightstown Township.

Russell's father, Clifford, is a grower known for propagating rare and exotic varieties of even the most common perennials.

Renny, who was born Frederick Delos Reynolds 3rd but who goes by the nickname his mother took from his favorite childhood reading, "Renny the Fox," said of his 21-year-old former manager, "Kent knows an extraordinary amount about perennials."

Renny's enthusiasm for plants goes back to his childhood. Renny's gardening started when he was eight years old, and a woman

who lived next to his family in suburban St. Louis taught him how to propagate pachysandra and ivy.

Before long, Renny recalls, he was selling pachysandra in flats to the neighbors. He then made friends at a nearby nursery, whose owner showed him how to make and root cuttings.

"I made cuttings of various things. When I made a cutting of an hibiscus and it bloomed, I felt as though I'd given birth. When I saw the (mother) plant, it wasn't in flower, and my cutting flowered with this beautiful yellow-orange bloom. Well, I thought it was the most beautiful thing in the whole wide world," he said.

Next he was germinating the orange and grapefruit seeds from the family breakfast table and growing them on to give as Christmas presents. His parents, who had driven him to the nursery and otherwise encouraged a hobby they didn't share, even gave him a room, which they had painted a soft green, and furnished it with plant stands and lights, Renny recalled.

## getting started in New York

At the University of Wisconsin, he studied landscape architecture. After graduating in 1970, he came to New York

where he worked for a landscape architect on city housing projects and designed terraces and indoor gardens for friends on the side. Then, he met designer Bill Blass at a cocktail party. "He told me he had a terrace that needed work, and I redesigned his terrace, which was then featured in *Architectural Digest* and *New York Magazine*. I got so many phone calls that I started my own business," he recalls.

Renny opened his first plant shop in Greenwich Village and rode the big New York plant boom in the mid-1970s when *House and Garden* and *House Beautiful* were popularizing the use of big trees as part of interior design, and Renny was supplying the trees.

By the time the plant boom eased off, Renny was established as someone who knew what to do with plants and flowers to make a home or a party special. His clients include corporations, institutions and individuals from all over the country. When in N.Y. he now lives in a four-story townhouse on East 64th Street that houses his shop and serves as his city pied-a-terre.

## Renny in the country

To launch the country division of Renny, Inc., he ordered the planting of 3,000





◁ Clematis 'Ernest Markham,' a Jackmanii hybrid.

peonies and 50,000 narcissi and the building of acres of perennial beds as well as two greenhouses last year.

There is no mistaking Renny's enthusiasm for horticulture. It has been a lifelong obsession, he will tell you. And is quick to add, "I was also born a merchant."

The merchant in Renny sees a market for the kind of plants often overlooked by retail nurseries and available only from

specialist growers or through gardeners' grapevines.

"I think it's important that people are doing more gardening and getting into perennials and learning more about gardening. The English have such a good time. It's the best hobby you could possibly have," he said.

Renny bought 32 of his Bucks County acres 10 years ago and added another 40-

some five years ago. He revelled in their rustic beauty and applied the finely honed aesthetic sense that his customers so valued to improving his country home.

He started with the immediate vicinity of the 18th century farmhouse that was originally the home of a Quaker minister for Wrightstown, retaining what he calls a "very strong sense of country."

After installing perennial borders and vegetable and fruit gardens, he moved down the driveway to a large pond where he placed a pergola left over from some gala. He filled in some gaps in a woods along the driveway with hemlocks and closed the driveway off with a pair of iron gates at the road.

"You have this continuous movement of open and closed spaces without going so far as to have high Vita Sackville-West hedges," he explains.

His move to the country not only brought out the landscape architect in him, but also rekindled his love of gardening. "I love to touch plants, to get into the dirt. After a week of work in the city, I can't wait to go out there and pull weeds," he explained.

Sometimes this zeal may seem excessive. Renny recalled how a friend observed once in disbelief, "You're now weeding the woods?"

### *an abundance of perennials*

Renny, The Perennial Farm, grows 200 different perennials, including 21 varieties of hostas, among the 20,000 to 30,000 plants in its sales stock. Among these are such rarities as *Kniphofia uvaria* 'Primrose Beauty,' with its strange yellow flowers resembling a bunch of bananas and *Cimicifuga racemosa* 'Atropurpurea,' whose small white flowers form a cone at the end of a long slender stalk.

The farm's buddleias also include some unusual varieties as do the hostas and hemerocallis.

The ornamentals in the greenhouse are grown mostly for sale in New York, but also are appropriate for a terrace or a sunny room in a country house.

One of Renny's favorites is *Solanum rantonnetii* 'Royal Robe,' a relative of the potato whose showy purple flowers belie its humble origins. He also favors things like daisy, lavender and rosemary standards and ivy topiaries.

Some things like the peonies and the

*continued*



## Sampling the Unusual Plants at Renny, The Perennial Farm

*Achillea millefolium* 'Apple Blossom,' whose lavender flowers fade to white. This sun-loving plant from the yarrow family grows 24 to 36 inches tall.

*Bergenia cordifolia* 'Bressingham White,' a hard-to-find white variety of plant usually available with red or pink flowers. It grows to 12 inches in shade or part sun and is a selection of British plantsman Adrian Bloom.

*Buddleia fallowiana* 'Lochinch,' the most fragrant of all the buddleias with lavender-blue flowers and grayish-blue foliage. This butterfly bush will grow to four or five feet and likes full sun best.

*Chrysanthemum* x *superbum* 'Thomas Killen.' This daisy's four-inch flowers are larger than those of most shastas. The white flowers with yellow centers are on thick sturdy stems, making them an ideal cut flower. Plants grow to 30 inches in full sun with not too much moisture.

*Cimicifuga racemosa* 'Atropurpurea,' an exotic purple leaf version of the snake root or bug bane plant. It has small white flowers that form a cone resembling a bottle brush at the end of a four- to five-foot stalk. Full sun is needed to maintain the purple leaf color.

*Coreopsis rosea*, a very unusual pink version of the bright yellow *Coreopsis* 'Moonbeam.' It is one of the few moisture-loving *Coreopsis*, growing to 12 inches and flowering from June to September in full sun.

*Kniphofia uvaria* 'Primrose Beauty,' whose banana-like flowers are primrose yellow rather than the usual orange or orange and yellow combination of other *Kniphofia*. This plant, which grows to 3 feet in full sun, blooms in late summer and reblooms when the flowers are cut off.

*Hosta* 'Golden Tiara,' the heart-shaped green leaves have a golden margin. A dwarf variety growing to 6 or 8 inches with 10- to 12-inch flower scapes in part shade.

*Hosta* 'Hadspen Blue,' one of the best blue hostas. Its leaves are a powdery steel blue. This shade-loving plant will grow 12 or 15 inches tall with light lavender flowers on 20-inch scapes. Sun fades the blue foliage to green.

*Hosta* 'Tall Boy,' whose flower scapes reach up to six feet. This plant grows to 30 inches and prefers shade, although it will tolerate sun. It has green leaves and its lavender flowers appear in August.

## Renny, The Perennial Farm

photos by Robert J. Salgado



△ Renny in his greenhouse.

A display of plants in the greenhouse, including *Geranium* 'Crystal Palace Gem' in the center and *Chrysanthemum pinnatifidum*, a tansy, (a low gray plant) in the foreground.



ornamentals in the greenhouses will be sold in New York, but mostly the future of the farm lies with its country customers, who have come from as far north as Long Island and as far south as Maryland.

Renny's policy on wholesale and retail sales is simple. Retail clients are allowed as much time as they need to select appropriate plants, while wholesale customers are expected to buy in quantity and know what they want.

The Perennial Farm is open Monday through Saturday from 8 a.m. to 5 p.m. in the spring and 9 a.m. to 6 p.m. in the summer. Visitors can phone 215-598-0550 for directions or information.

Writer/photographer Robert J. Salgado's work has appeared in various publications including *The Philadelphia Inquirer* and *Green Scene*. He lives on three acres near New Hope, and he would rather photograph perennials than weed them.



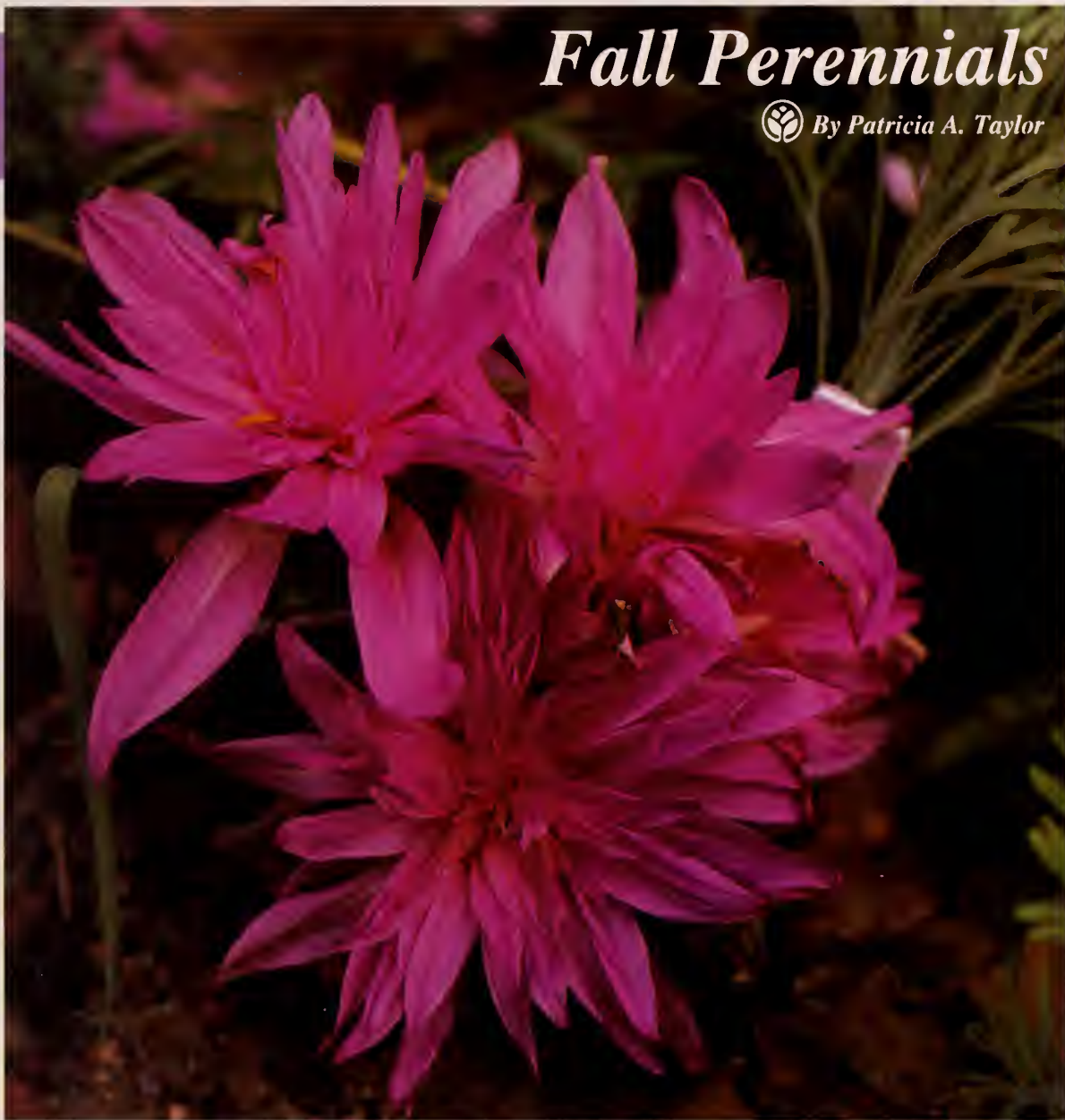
# LATE BLOOMERS:

## *Fall Perennials*



By Patricia A. Taylor

photo by Patricia A. Taylor



**F**all is a transitional time in the garden year. Clean-up chores are well underway and new spring bulbs are being planted. During this busy combination of clearing away summer's debris as well as planning for next year's garden, I particularly appreciate the appearance of late-blooming, easy-care perennials.

The plants that follow are all flowering in October, adding color and variety to our Princeton, New Jersey, garden. They are easy care because they require neither fertilizers nor pesticides to enhance their yearly appearance.

Many spread with ease — some might say abandon — and require an annual thinning out in spring. Otherwise, there's little else for you to do with these plants except to enjoy their late season color.

Fall chrysanthemums are notably absent from the list. They are not low-maintenance plants since they require good soil, summer pinching, and periodic health checks to contain diseases and pests. I like chrysanthemums in my garden, but they arrive in pots bought at school plant sales in the fall and are placed where color is needed most, a final decorative touch to the perennials listed here.

*Colchicum autumnale.*

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*continued*





Lancaster geranium (*Geranium sanguineum lancastrense*).



White speedwell (*Veronica spicata* 'Icicle').



Hardy begonia (*Begonia grandis*).

### summer stalwarts that still appear fresh

Many flowers, such as black-eyed susans, spiderworts, and fever-few, have an extended bloom period into fall. But they look tired at this time of year. You know they have been working hard for a long time and are almost gasping in their effort to please. The following five, however, have a touch of perpetual youth about them, looking just about as fresh and as new in October as they did several months earlier when they made their first appearance.

**Silver King** (*Artemisia ludoviciana albula* 'Silver King'). This plant is chiefly grown for its silver-gray foliage. In the fall, however, it produces flowers that look like tiny, silver pebbles clustered on the stems. These look handsome in garden beds and are lovely in fresh or dried flower arrangements. Silver King is an indestructible plant that likes to spread about. Hailing from the American Southwest, it grows into thick, bushy clumps when placed in dry, sunny spots similar to its native habitat. In cool, shady locations, it will sprawl if not staked.

**Yellow corydalis** (*C. lutea*). This elegant little border plant bears tiny, bright yellow blossoms from May through October. It never looks tired, a sign of being a true garden aristocrat. Its dainty blue-green foliage is handsome in its own right and makes a wonderful front-of-the-border decoration. Best of all, this plant will flourish in full sun or shade, as long as it has good drainage.

**'Moonbeam' coreopsis** (*C. verticillata* 'Moonbeam'). A true Cinderella plant, appearing mysteriously and capturing all hearts, this plant is covered with tiny, pale yellow flowers for a good five months. Though some authorities (including Donald Wyman and Ruth Clausen) say this is a cultivar of *C. verticillata*, growers at Crownsville Nursery in Maryland claim that no one knows where this plant first appeared. All, however, owe a debt of gratitude to garden designers Oehme and van Sweden for popularizing this wonderful plant in their carefree New American Gardens.

**Lancaster geranium** (*Geranium sanguineum lancastrense*). The botanical classification of this plant is also unclear; just look for some version of the name Lancaster, which recognizes the discovery of this perennial on the Isle of Walney in Lancashire, England. It has lovely light pink flowers that start their long blooming period in May in my garden. In the fall, the dark green foliage turns a brilliant red as the last pink flowers brave cold October weather.

**White speedwell** (*Veronica spicata* 'Icicle'). This speedwell outperforms all others in my garden. The cultivar name, I suppose, refers to its long spikes of brilliant white flowers. These have a freshness and daintiness, however, that is never found in a cold, dripping icicle. I periodically dead-head this plant when strolling about the garden, and it rewards me with flowers from July through October.

### late August flowers that bloom well into October

The next two flowers are often associated with a late summer garden, perking up a flower border at a hot, tired time of the year. Such is the robustness of these plants, however, that they continue to bloom almost through October.

**Big blue lobelia** (*L. siphilitica*). I described this plant in an article on prairie plants (January 1990, *Green Scene*). Obviously, I cannot pass the opportunity to praise it again. To me, this lobelia is the fall equivalent of the spring foxglove. Its tall, elegant spikes, clustered with blue or white flowers, look smashing in the garden border.

**Perennial ageratum** (*Eupatorium coelestinum*). This is an invasive native American plant. Every spring, as I dig out runners that have spread throughout the garden, I seriously consider dispensing with it. But then I remember its long bloom and blue color, and I always leave a small clump. If you have, as I do, a garden spot in partial shade with thick, clay soil, this is a perfect plant for such an area. The soil and lighting conditions will restrain its spread and you will have pretty ageratum-like flowers for

six or more weeks in the fall.

### perennials that start to flower in September or later

The following are the last offerings, the rich desserts if you will, of the garden year. While all else is fading away or crumbling with age or disease, these burst into a beauty that is appreciated in both the border and in cut-flower arrangements.

**Pearly everlasting** (*Anaphalis margaritacea*). This is another invasive plant and yet the noted English horticulturist Will Ingwersen ranks it as a classic. Easily grown in any soil, it has a gray foliage that Ruth Clausen describes as going particularly well with *Veronica* 'Icicle' in a white garden. The flowers are also quite handsome in dried arrangements.

**White mugwort** (*Artemisia lactiflora*). A China native discovered about 200 years ago, white mugwort has yet to attract a widespread following. It differs from other artemisias in that its foliage is green rather than gray or silver. Though many garden books describe this plant as blooming in late July and August, its fragrant, white, astilbe-like flowers never appear until September in my garden. This plant thrives with moisture and part shade, conditions also favored by slugs. Since I don't use poison baits, these pests weaken the plant in spring but, because of the white mugwort's vigor, never deter it from a fall bloom.

**New England aster** (*Aster novae-angliae*). This too was described in my article on prairie plants. I think if I had to choose only one among the many cultivars available, it would be the widely praised 'Harrington's Pink.' I like it not only for its long and profuse bloom of pretty pink flowers but also for the fact that it can grow in part shade as well as in full sun.

**Hardy begonia** (*Begonia grandis*). This lovely plant has been grown in gardens for decades but has just begun to make its way into the popular press.\* It looks like the

\* See "Begonia grandis" by George Harding, *Green Scene*, Sept. 1983.



## Vital Statistics for Author's Fall Perennials

Botanical Name	Light Requirement	Height	Flower Color
<i>Anaphalis margarita</i>	Best in sun but will grow in part shade	2 feet	White
<i>Artemisia lactiflora</i>	Sun to part shade	4 to 6 feet	White
<i>Artemisia ludoviciana</i> <i>albula</i> 'Silver King'	Best in sun but will grow in part shade	2 to 3½ feet	Silver
<i>Aster novae-angliae</i>	Sun to part shade	3 to 6½ feet	Blues, pinks, and purples
<i>Begonia grandis</i>	Part shade to shade	2 feet	Pink
<i>Boltonia asteroides</i> 'Snowbank'	Sun to part shade	6 to 7 feet (species) 4 feet (cultivar)	White
<i>Colchicum</i> x <i>autumnale</i>	Sun to bright part shade	6 inches	Pink
<i>Coreopsis verticillata</i> 'Moonbeam'	Sun to part shade	1 to 3 feet	Yellow
<i>Corydalis lutea</i>	Sun to shade	12 to 15 inches	Yellow
<i>Eupatorium coelestinum</i>	Sun to part shade	1 to 3 feet	Blue
<i>Geranium sanguineum</i> <i>prostratum</i>	Sun to part shade	6 to 8 inches	Pink
<i>Kirengeshoma palmata</i>	Part shade	3 to 4 feet	Yellow
<i>Lobelia siphilitica</i>	Sun to part shade	3 to 5 feet	Blue, white
<i>Vernonia altissima</i>	Sun to part shade	6 to 8 feet	Purple
<i>Veronica spicata</i> 'Icicle'	Sun to part shade	1 to 2 feet	White



Ironweed (*Vernonia altissima*).

well-known indoor plant, angel wing begonia. In a woodland, humus-rich garden, such as that of Louise Morse in Princeton, it seeds itself with abandon and sends up many new plants. Though my soil is not as supportive of new seedlings, the parent plant does return each year.

**Boltonia** (*B. asteroides* 'Snowbank'). This plant is a hot newcomer to the perennial plant scene and has had a meteoric rise in the popularity poll. It has tall, elegant, greenish-gray foliage and daisy-like flowers that bloom for almost two months. The 'Snowbank' cultivar is supposed to be shorter than the species and never need staking. I find all my boltonias do, and regard it a small price for such a lovely end of the season display.

**Autumn crocus** (*Colchicum autumnale* and *C. speciosum*). According to garden historian Ann Leighton, these bulbs were popular in 18th century gardens. They are now enjoying a renaissance and are offered in many catalogs. My favorite is a hybrid called 'Waterlily.' It looks like a luscious pink water plant, only it floats in fall flower beds. The most attractive aspect of this plant, to me, is that the flower actually emerges from the soil in September. There is just something wonderful about seeing a new shoot at this time of year. What catalogs neglect to mention, however, is that the leaves appear in the spring and get

*continued*

## Plants and Sources

*Anaphalis yedoensis*  
Bluestone Perennials

*Artemesia lactiflora*  
Crownsville Nursery  
Lamb Nurseries

*Artemesia ludoviciana*  
*albula* 'Silver King'  
Bluestone Perennials  
W. Atlee Burpee & Co.  
Lamb Nurseries

*Aster novae-angliae*  
Bluestone Perennials  
W. Atlee Burpee & Co.  
Crownsville Nursery  
Lamb Nurseries  
Native Gardens  
The Primrose Path

*Begonia grandis*  
Crownsville Nursery  
The Primrose Path

*Boltonia asteroides* 'Snowbank'  
Bluestone Perennials  
W. Atlee Burpee & Co.  
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Native Gardens  
The Primrose Path

*Colchicum autumnale*  
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*Coreopsis verticillata* 'Moonbeam'  
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The Primrose Path

*Corydalis lutea*  
Lamb Nurseries

*Eupatorium coelestinum*  
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Lamb Nurseries  
Native Gardens

*Geranium sanguineum*  
*lancastrense*  
Bluestone Perennials  
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Lamb Nurseries  
The Primrose Path

*Kirengeshoma palmata*  
The Primrose Path

*Lobelia siphilitica*  
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Native Gardens  
The Primrose Path

*Vernonia altissima*  
Native Gardens

*Veronica spicata* 'Icicle'  
Bluestone Perennials  
Lamb Nurseries

## Source Addresses

Bluestone Perennials  
7211 Middle Ridge Road  
Madison, OH 44057

W. Atlee Burpee & Co.  
300 Park Avenue  
Warminster, PA 18974

Crownsville Nursery  
P.O. Box 797  
Crownsville, MD 21032

Lamb Nurseries  
E. 101 Sharp Avenue  
Spokane, WA 99202

Native Gardens  
Route 1  
Box 494  
Greenback, TN 37742

The Primrose Path  
R.D. #2  
Box 110  
Scottsdale, PA 15683

up to 2' tall before fading away slowly in much the same manner as daffodil foliage does.

**Kirengeshoma palmata.** Perennial authority Fred McGourty claims that this is a flower for pretentious plant snobs. One telling factor is that it has no popular or common name. When I bought it five years ago, however, I was simply hoping to find an easy-care shade perennial that would put forth lemon-yellow flowers in the fall. It took about two years before the first scraggly one appeared and the maple-tree-like foliage would often sicken and have to be amputated for the general health of the rest of the garden. No wonder I came to doubt the praises sung by the late landscape designer Russell Page and the British garden writer Beth Chatto. Then, last summer, a combination of age and perhaps lots of moisture (which every source says the plant requires) produced wonderful results. Through sheer happenstance, I had placed a 'Moonbeam' coreopsis in front of the plant and the two made a wonderful autumn combination.

**Ironweed** (*Vernonia altissima*). Throughout most of the summer, this plant has the appearance of a rank weed. The compliment you can pay its foliage is that it is a handsome dark green. Well, then, why mention it? Come late September, the answer is obvious. Covered with intense purple blossoms, it is one of the few plants to burst into flower at this time of year. Its dark purple color is especially handsome in flower arrangements. Since this is such a tall plant, it should be put in the back of the border where its foliage will be hidden for much of the summer.

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*The Perennial Gardener*, Frederick McGourty, Houghton Mifflin, Boston, 1989

*Wyman's Gardening Encyclopedia*, Donald Wyman, 2nd edition, MacMillan, New York, 1986

These books are available through PHS Library.

Patricia A. Taylor is a writer who loves to garden. She is the author of the book *Easy Care Perennials* (Simon & Schuster, 1989) and has written garden articles for *The New York Times*, *Newsday*, *American Horticulturist*, and *Fine Gardening*.

# An Invitation to Plant Societies

## SEND US YOUR PLANS FOR 1991

We will publish information about one major plant sale and one major event for each area plant society located in the Delaware Valley from January 1, 1991 through December 1991. Send the information to Carol Lukens (*Green Scene*, 325 Walnut St., Phila., PA 19106.) Deadline: October 22, 1990. Please use the following format:

NAME OF CHAPTER AND SOCIETY: \_\_\_\_\_

	Event #1 — Major Event	Event #2 — Plant Sale
Name of Event	_____	_____
Dates of Event	_____	_____
Time of Event	_____	_____
Location	_____	_____
(full address)	_____	_____
Fee, if any	_____	_____
Name of contact person	_____	_____
Address	_____	_____
Phone Number	_____	_____

Publish ☐ Yes ☐ No



# Botanical Art: Larger Than Life

 By Joanna Reed

photo by John F. Waggaman II



Artist Tom Steigerwald and his wife Patrice are seated before his painting 'Memento Mori' (Remember we die). The fresh greens of spring have given way to the tarnished golds, siennas and flame reds of autumn. The once vigorous concord grape leaves are subdued by time, and the maroon dragon lily is only a support for an unrelenting morning glory.

I walked into a glorious surprise on a damp, grey, chilly January day. Curiosity had forced me to leave my warm cocoon and how fortuitous it was. A stunning treat was the reward.

Having heard about Philadelphia artist Tom Steigerwald's paintings, my interest had been aroused. His techniques and concepts are unusual, floral painting with a new perspective, botanical depictions larger than life. My curiosity was laced with skepticism: would the enlargement of nature detract from and coarsen the chosen flowers?

Tom and Patrice Steigerwald opened the door not only to their home but to an enchanted spot. An *Odontoglossum* orchid

*continued*



When Steigerwald's garden sleeps in winter, he looks for the sun in exotic flowers. Although severed from the earth, refrigerated, shipped, he finds them amazingly filled with energy, resplendent in form. When he paints them he is "transported to that sunlit place."

framed the doorway between living and dining room. The flower trusses gracefully arched overhead; foliage, fresh and green, lustily grew from a mass of plump pseudo-bulbs vibrant and alive. Nothing, absolutely nothing, was lost in the enlargement. A 16-inch plant, through this painter's skill, had become a 10-foot, beautifully accurate botanical study. My companion that day, Michael Bowell, a passionate collector and grower of orchids, shared in the wonder and amazement.

Orchids, obviously a favorite plant and frequent subject for Tom, are by no means the only flowers he paints. Roses, fuchsias, hibiscus, ferns, poppies, sunflowers, even the lowly bean are among his paintings.

On one wall hangs an arrangement of *Strelitzia*, anthurium and ginger. The bold design, and rich color demands attention. This arrangement needs a bit of grooming. A collapsed flower stalk needs to be snipped off; thus does the painter involve the viewer.

Again and again we see the delicate

beauty of flowers and buds emerging from healthy fresh foliage made more vibrant by the proximity of a faded flower, a dying stalk, with seed capsules ripening, and withered leaves about to join the compost-rich soil from which the plant springs. It is a full cycle that Tom paints.

His work is wonderful: original, accurate, and vital. The stark white background interspaces contribute to the overall composition on a par with the flower and leaf forms so meticulously painted; minute



# Botanical Art

details remain minute and convincing in the eyes of the beholder, despite the greatly magnified scale of the work.

Amazingly these murals are totally portable, moveable, uniquely practical for today's frequently nomadic lifestyle. To achieve this end each work must be designed with full knowledge of the plant's growth habits. The painting will be on masonite, not a square or rectangle similar to a canvas but a series of pieces cut into flower and leaf forms, then painted to give depth, life and movement. Upon completion the parts are assembled as they are hung on the wall. Each section fits together as naturally as the plant itself grows. The slightly 'bas relief' effect of the 1/8-inch-thick masonite increases the liveliness of the finished piece.

The spontaneous quality of these murals belies the technical skill which produced them. A firm grounding in art, draftmanship, perspective, color harmony and manual dexterity with saws and files, as well as a paintbrush were requisites Tom had

acquired over the years as an artist. His realization that nature is a supreme and subtle designer, led him to grow and intensely study the plants and flowers he enjoys painting. The painted plants gained veracity and validity as his familiarity with botany developed. The endless numbers of plants from which to choose, with their variations in detail and form, will surely keep Tom Steigerwald fascinated and painting for years to come.

Joanna Reed attended the Philadelphia College of Art (now University of the Arts). The museum-quality crewel curtains, which she designed and executed to depict the four seasons, have been featured in *Green Scene* and *Threads Magazine*, and are currently the subject of a three-part series in *Victoria Magazine* (Jan. '90, May '90 and a fall '90 issue.) Joanna's garden has been the subject of many *Green Scene* stories; the last one "Joanna Reed: 50 Years at Longview Farm" was the cover story for the May 1990 issue.



The rose 'Sonya' is displayed in a cloistered setting, surrounded by digitalis and salvia. The greys, pale pinks, and soft lilacs are used to create a mood of harmony and serenity.



A sheet of masonite 1/8" thick is cut with a saber saw and a band saw. This particular piece is cut into three pieces as marked. When the artist is ready to hang the painting, the two smaller pieces, A & B, are wedged behind the larger piece and secured on the edge with small nails.

# THE MORAVIAN PEONY



photo by Jane Grushow from Grant Heilman

Early peony, fern leaf peony (*Paeonia tenuifolia*).

*the green scene / september 1990*



On Members Night of the Muhlenberg Botanical Society, the restrained decorum reserved for lectures gives way to the animated curiosity of a swap meet. Interest levels mount with the arrival of each box overflowing with greenery for to this meeting, we bring slides of our latest botanical discoveries and spare garden plants to share with other members.

Botanical anarchy prevails on the table for the plant exchange. We have no rules about what should or should not be brought; ferns vie with tree seedlings, which jostle with colorful perennials. At one such meeting, amid the green profusion I was struck by the elegance of three exquisite blossoms with some finely cut foliage emerging from a jam jar. Here was a plant I had to have. The petals were a deep rich red with a luminous sheen, and at the center stood a mass of bright yellow stamens. The plant was obviously a peony, but the leaves were quite unlike those of the garden peony, being deeply dissected and delicate in texture.

On inquiry I found that the flowers had been brought for table decoration and were unavailable for exchange. As to its name, well, it was Ada Royer's peony, meaning that it had originally come from her garden. No clues to identification there.

I have a notion that anyone with moderate powers of observation can guess a plant's common name by thinking about what the plant brings to mind as one looks at it. Since the finely cut leaves of this plant were so striking, it had to be called the fern leaf peony. The system worked. The common name led me to identify this plant as *Paeonia tenuifolia*. The person who had brought the flowers had no spare plants to offer, and a search of catalogs drew a blank. This was a few years before Wayside Gardens offered *P. tenuifolia* 'Rubra pleno flore.'

I began to notice the peony in local gardens; it was puzzling to find a plant unavailable in the trade growing in unsophisticated country gardens. One gardener called it the early peony, an appropriate name, as it flowers well before

*Paeonia lactiflora*, but she knew nothing else about it.

The next year at the plant exchange, my patience was rewarded with the gift of a few small tubers; the tubers are in fact smaller than those of *P. lactiflora*. Having no cultural information about my peony to guide me, I grew it in two different situations: in partial shade in front of a stone wall and in full sun in an island bed. Both

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*The plant was passed around from garden to garden with the stipulation that new plants should be given only to those of the Moravian faith. At some point, fortunately for us non-Moravian gardeners, a piece of P. tenuifolia must have slipped over the garden wall.*

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plants grew quite well, but the foliage burnt out in full sun in the high heat of summer. In partial shade, where the ground was damp, the plant thrived better. The lack of air circulation, however, showed that *P. tenuifolia* is just as susceptible to *Botrytis* blight as *P. lactiflora*. A compromise between the two situations would probably be best, but since peonies prefer to stay put, I'm loath to move it around the garden.

Ownership of *P. tenuifolia* has its problems, for as soon as gardeners see the plant, or even a picture of it, they want it. Nurseries, take note: there is a market out there for *P. tenuifolia*. These problems are slight when measured against the pleasure of seeing the first buds of *P. tenuifolia* appear in early spring as they push their way out of the ground surrounded by a thick fringe of red-green foliage. And then come those gorgeous red blossoms. As with most peonies, the glory is short-lived; depending on the size of the clump and the weather, it will remain in bloom for a week to 10 days in late April or early May, but after petal fall there remains a decorative, red velvety seed capsule, whether seed is set or not. For the rest of the season, the foliage remains as a dull green finely textured mound. Fall is the best time to

plant peonies including *P. tenuifolia*. It is readily propagated by tuber division and takes about two years to become established at a new site. The plant, of course, is not perfect; it has a tendency to flop, especially in wet weather, and *Botrytis* blight can be a nasty problem. Pride of possession is evident in those who already own it. More than once on a garden tour, while I was admiring some stand of flowers, the owner of the garden has redirected my attention to the real gem of the garden, a few shining blossoms of *P. tenuifolia*.

The mysterious appearance of *P. tenuifolia* in Lancaster County gardens was solved when a local nurseryman, Gary Shelly, told me that it was also known as the Moravian Peony. Further investigation led me to this story told by a 104-year-old resident of a Moravian retirement community: The peony was brought to this country from Europe by some of the original settlers of the Moravian community in Lititz, Pennsylvania. The plant was passed around from garden to garden with the stipulation that new plants should be given only to those of the Moravian faith. At some point, fortunately for us non-Moravian gardeners, a piece of *P. tenuifolia* must have slipped over the garden wall. When the trade finally realizes the potential of this plant, it may become available for all to enjoy.

#### Sources

At present only the double form is available.

Wayside Gardens  
1 Garden Lane  
Hodges, SC 19695-0001  
Gurney Seed and Nursery  
Yankton, SD 57079

Jane Grushow has had a life-long interest in both botany and horticulture. Though a native of Great Britain, she has gardened only in the New World. Occasionally she returns home to admire and learn from English gardens, private and public. Currently, Jane works as a freelance garden photographer.



Philadelphia skyline from Bartram's Garden's meadow.

## Creating a 15-Acre Meadow on the Schuylkill in Downtown Philadelphia

 By Toni Brinton

Toni Brinton is a member of the Board of Directors of Bartram's Garden, a former member of PHS's Council and former PHS Library chair.

When you arrive at Bartram's Garden, after you cross the railroad bridge and enter the 18th century historic area, with house, barn, stable complex much as they were in John and William's time, you turn left into the new parking area. On the horizon stands the 20th century Philadelphia skyline. And in front of you is a 15-acre meadow that sweeps away to the Schuylkill. Grasses, patches of daisies, black-eyed susans and goldenrod all raise their colorful hellos. If you are lucky, you will hear the resident pheasants sounding their alarm at people near their nesting sites.

Four years ago this meadow was an ugly stretch of rough land along the Schuylkill, adjacent to the historic garden at Bartrams. The ground was so poor that it was mostly mud with a few scraggly weeds poking through large metal rusting tanks, concrete rubble, trash, even garbage. In 1986 this 17 acres, the site of the defunct Warner Concrete Co., was hidden from the garden by an overgrown thicket of privet hedge, weed trees and vines. Fairmount Park had completed purchasing the derelict parcel of land in 1982 through a grant from the Land and Water Conservation Fund to buffer the historic Bartram's Garden from the existing industry in this part of Philadelphia. And it was two acres of this area that Rudy Favretti, the designer of the garden's master plan\*, designated as the best possible place to park the cars and school buses that come to Bartram's. Parking the 20th century motor vehicles away from the 18th century environment would lessen their visual intrusion.

The two-acre parking area was to be constructed on a cliff-like plateau close to the existing driveway entrance. The outer rim was to be planted with evergreens to hide from view the rough area below. The cliff was very rough itself and not quite large enough to park 50 cars and two school buses. The architects and contractors estimated it would cost \$150,000 to remove the metal tanks and huge chunks of concrete, to add and grade fill, all before the modest gravel parking area could be installed at a cost of \$65,000. The total figure

\* See "Restoring Bartram's Garden: America's Oldest Surviving Botanical Garden" by Rudy J. Favretti, *Green Scene*, Sept. 1986.



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*But the best advice said that the rye was self sowing and too thick for the new wildflowers. Nature's first surprise. We had a hayfield instead of a meadow.*

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was 1/5 of the one million dollar Capital Campaign then underway, the purpose of which was to preserve and refurbish the existing farm buildings for Bartram's visitors' educational use. Four thousand dollars per parking spot was too high a price; no one wanted to spend 20% of the Capital Campaign on parking.

### *reducing cost*

Finding a less costly solution produced not only a parking lot for 2/3 less cost, but gave Bartram's the bonus of a meadow. The Fairmount Park Commission, The Philadelphia Water Department and The McLean Contributionship, whose generous donation funded the parking area, all worked with the staff and Board of Bartrams. Geppert and Bros., Inc., a contractor needing a place to dispose of clean fill, agreed to remove the concrete and metal tanks in exchange for the free dump site.

Endless heavy truckloads of Mr. Geppert's fill, day after day rattled noisily across the railroad bridge, swinging onto the Warner site, raising clouds of dust, and eventually leaving the roadway deeply potholed reducing the asphalt to a rough dirt and gravel lane. This stage lasted two long years but finally Fairmount Park called a halt. Quiet descended, for the moment.

Instead of a cliff-like plateau, we had one continuous smooth sweep of land, football fields of dirt i.e. the parking lot plus the 15 contiguous acres. A small rim of evergreens would be swallowed up by the panoramic vista that the bulldozers had created. Grass to be mowed or traditional landscaping would be unnecessary and expensive.

With the already impossibly stretched budget of Fairmount Park, and the limited operating funds of the John Bartram Association, elaborate landscaping or lawn planting was not economically feasible. Since it is entirely possible that the 18th century Bartrams could have used this area for field crops or for grazing, the idea of a meadow was proposed by the Garden Committee, because such use of the land would require mowing only once or twice a year, and occasional control of invasive weeds. After consulting with horticulturist FM Mooberry formerly of the Brandywine Conservancy and Richard Lighty of the Mt.

*continued*

*the green scene / september 1990*



Everybody was a winner. Geppert & Bros. cleared concrete and metal tanks from the meadow site in exchange for permission to dump soil, which they did for two years.



Mine Mix, from the Sludge Management Unit of the Water Department, goes on after the topsoil was spread.





In May 1990, school children find a lovely meadow at Bartram's Garden, never suspecting it was littered with old concrete and machinery just four years ago.

Cuba Center for the Study of Piedmont Flora, The Bartram Board proceeded to install the meadow along the Schuylkill.

After the "fill" and rough grading of the entire site was completed, truckloads of topsoil were dumped and spread by giant graders. Then the Sludge Management Unit of the Water Department arrived with that miracle black goodness they call "Mine Mix." Later huge seeders spread the initial meadow mix that has been especially designed for fall planting. In September, 1988 annual rye grass, sheep's fescue (low tufted grass), black-eyed susans and daisies were spread over the 15 acres that were not to be gravel parking. The gradual sweeping slope to the river was beautiful to behold. The rains fell gently that autumn, the seed germinated, the whole area turned a soft furry green but if you looked closely, between the tender new shoots of grass, you could see also the small rosettes of flowers beginning to show.

On April 17, 1989, 35 volunteers from the Philadelphia Committee of the Garden Club of America worked to spread little blue stem (*Andropogon scoparius*) and Indian grass (*Sorghastrum nutans*) along with 20 additional varieties of wildflowers, mixed together in buckets of sand to aid in distributing the seed over the 15 acres. That same day, plants of aster and goldenrod (which had been dug by Brandywine Conservancy volunteers) were planted throughout the meadow. One thousand orange daylilies (*Hemerocallis fulva*) were planted along the berm that edges the parking area. The Philadelphia Committee had also paid for the initial seeding the previous year. Lots of womenpower worked together to accomplish this job.

May and June 1989. It rained, rained, rained, and the annual rye, which normally grows to 18 inches and dies with summer's heat, grew 4 feet and set seed, hiding the young seedlings, the new daisies, the fescue and other grasses. We had not wanted to mow until November when the flowers would have set seed and the birds would have been through nesting. But the best advice said that the rye was self sowing and too thick for the new wildflowers. Nature's first surprise. We had a hayfield instead of a meadow.

#### *a pleasant aspect*

At the end of June 1989 Fairmount Park mowed. They had not equipment for raking or baling. Mats of rye lay where they fell. By mid-July, through the drying mown grass, daisies and black-eyed susans and aster plants and some of the goldenrod were pushing through the unwanted mulch. Tips of new green showed everywhere. At least 1/3 of the daylilies were flowering. All was not lost. We did have a meadow at Bartram's. It was hard to remember the old bedsprings and concrete chunks that had been covered over where clumps of daisies and grasses now grew. A pleasant aspect, not a junk yard. In one year, the new meadow had become an attractive reality.

Still to be planted, after needed topsoil is delivered, are the islands in the gravel parking lot. A grove of sassafras, some more flowers and daylilies, and native ornamental grasses that need to be mowed only once in late winter are planned for these areas.

In its first year, the Bartram's meadow was not a sea of flowers, but there were plenty to brighten the horizon and very few

weeds or trash trees invaded the site. Despite the monsoon rains of 1989 very little erosion occurred and most welcome of all, the pheasants are still calling. Although there was some concern that the Canada geese nesting at the water's edge might eat the seed for nourishment, they left plenty, which are now maturing plants.

January 1990. A walk around the meadow, listening to tugs hoot on the river, reveals thousands of daily spoon-shaped frilled leaves waiting to bloom.

It's fortunate that the rains fell, and that the sun shone on the greening experiment along the banks of the Schuylkill in downtown Philadelphia. This meadow demonstrates that with the help of private foundations and private citizens, with the city departments cooperating in the venture, 17 acres of industrial wasteland could be reclaimed.

A meadow, as any landscape does, will change each year. We hope to have more goldenrods and asters to extend the season of bloom into late fall. The goldenrods are supposed to keep at bay the dreaded Canada thistle. Year two of the meadow will probably require more weed surveillance and the removal of any "undesirables." May and June 1990 produced a spectacular white field of daisies, which were coincidentally the flower that began John Bartram's lifelong botanical avocation. Visitors are encouraged to come monitor the meadow's progress, listen to and even sight some of the 97 bird species that frequent Bartrams, watch for pheasants, and have a country kind of day in a city garden.



# THE NEW PLANT HARDINESS MAP

## *Use It To Help Choose the Best Plants for Your Garden*



By Amalie Adler Ascher

**D**elay bringing houseplants indoors for the winter and you'll find them brown and limp after a night of plunging temperatures. Or try rushing the season, setting tender vegetables and flowers out prematurely, and see them ruined by frost.

There's no way, of course, to tell if a tree or shrub is winter-hardy merely by looking at it. When you shop at a garden center or nursery near your home, you may assume that because a plant is being offered there means it's suited to the local climate.

But suppose you are thinking of buying a plant you've seen in a catalog, or while vacationing in the South where temperatures are mild. If the plant is unfamiliar to you, how can you tell what its chances for survival are up North?

If it has been labeled with a hardiness rating or you can learn it from the seller or a horticultural reference, you'll be in a much better position to judge its life expectancy under the conditions you'll be providing for it.

Plant hardiness can be determined by consulting a special map designed for the purpose. The plant hardiness map divides the United States into zones based on their "average annual minimum winter temperatures." Each zone differs from the next by 10°F. As plants are observed in varying climates, their cold tolerance can be rated in relation to the zones on the map.

Maryland, my home state, falls in Zone 7, whose average lowest temperatures range from Zero to 10°F higher. Assigned to Zone 7 too, are Delaware, Arizona, the state of Washington and parts of Texas, among other places. Texas, by its size and location, experiences such a diversity of climates that it spills over into Zone 6 (minus 10°F to Zero). Zone 8 (10 to 20°F above Zero) and Zone 9 (20 to 30°F above Zero). Most of Pennsylvania and much of New Jersey lie in Zone 6.

Suppose you lived in Amarillo — whose position is in Zone 6 — and were eager to plant eucalyptus outdoors. Would the plant

live through the winter there? The answer, measured in relation to the map, would be no, the climate would be too cold. Eucalyptus is rated for Zones 8 to 10, where temperatures drop no lower than 10°F above Zero. Should you move to Corpus Cristi, however, which is located in Zone 8, the weather would not prevent you from carrying out your intention.

The new USDA Plant Hardiness Zone Map provides the first update of the old one in 25 years. The new map was produced by the U.S. National Arboretum under the leadership of director Dr. H. Marc Cathey. Joining him and his staff in the project was meteorologist Mark Kramer of Meteorological Evaluation Services in Amityville, NY. Kramer collected and analyzed weather data submitted by 14,500 government stations in the United States, Mexico and Canada, and culled it to 8,000 stations for the material that was actually used.

The latest USDA map is the third in the line. The original was created in 1960 under the supervision of Henry T. Skinner, then Arboretum director, and revised in 1965. (Other plant hardiness maps are also in use, having been prepared independently by various nurseries and arboreta to assist them in their work. Some of these, the Arnold Arboretum's, in particular, whose publication in 1927 was the first of the maps and which is called "Hardiness Zones of the United States and Canada" appear in general gardening references and mail order catalogs.)

The revision of a new USDA map, Cathey said, came at the urging of the Garden Writers Association of America in 1983.

The garden writers believed, said Cathey in a chat at the Arboretum, that the old map was "woefully inadequate," no longer mirroring today's weather patterns. Winter temperatures appear to be becoming progressively colder, the reports of global warming notwithstanding. The data for the old map, moreover, were drawn from only 450 weather stations, and the bulk of that

information has been lost.

### *changing weather*

"Because the weather was changing," said Rachel Snyder, one of the garden writers who instigated the update, in a telephone conversation from her St. Louis office, "it was affecting the survival of plants in peoples' gardens. They were led to believe they could grow things they couldn't. The lows of winter have crept southward, except in big cities where microclimates are found." Furthermore, noted Snyder, the old map was pre-computer age. Thus the amount of data that could be gathered for it was limited.

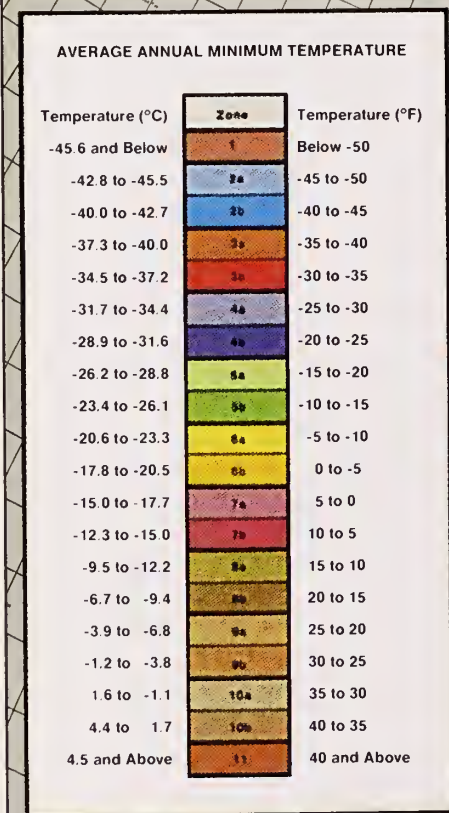
"GWAA," continued Snyder, "pointed the finger" at Cathey as the logical and best person to assume the task; as the head of a government agency of which the weather department is a branch, he would have access to the necessary information to say nothing of a computer. "The map," Snyder adds, "is a wonderful development and it does prove times have changed, and we weren't imagining it."

Although the winters have grown colder and summers hotter, the average year-round temperature in North America, says Cathey, continues to stand at 57°F. But because greater fluctuations are occurring within zones, their boundaries on the new map have been redefined. Under the new scheme, for example, Baltimore lies in Zone 6 instead of Zone 7 as was previously the case.

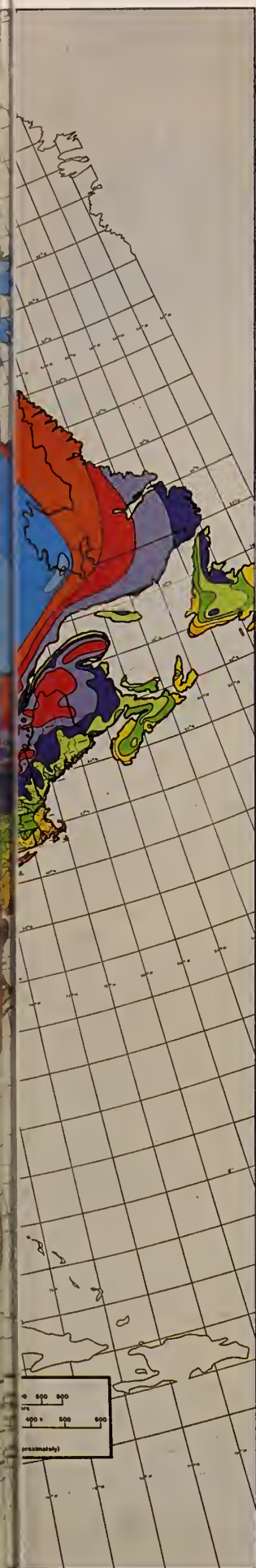
Pennsylvania formerly lodged in Zone 6, but incorporating touches of Zone 7 along its edges around Philadelphia and on up into Cumberland and Franklin counties, on the new map is composed almost entirely of Zone 6 and Zone 5. (Most of S.E. Pennsylvania is in Zone 6, while the northwestern part of the state lies in Zone 5. Zone 5, incidentally, encompasses a much greater territory than it did on the old map.) However, McKean County and parts of Warren, Forest and Elk counties have been moved into Zone 4. Philadelphia,



# USDA Plant Hardiness Zone Map







alone, has become warmer (perhaps, Cathey says, as a result of its surrounding environment). Whereas Philadelphia used to be in Zone 7, it's now on the border between Zones 6 and 7.

Delaware has kept its position in Zone 7. And whereas formerly a large hunk of New Jersey sat in Zone 7, on the new map only 20% of the state lies in Zone 7 (including Atlantic City and Newark), while 60-70% (including New Brunswick and Allentown), is contained in Zone 6. The northwest corner of the state lies in Zone 5.

#### **a new zone added**

The old map contained 10 zones. The new version has the original 10, though many have new boundaries, and an 11th zone was added to mark regions that are virtually frost-free, with average annual minimum temperatures exceeding 40°F. This group includes the southern tip of Florida, Southern California, Hawaii (except for mountainous parts) and most of the coastline of the Yucatan, the southern Baja Peninsula and the Gulf of Mexico.

The new map reworks the Canadian portion (mostly lying in Zones 1 and 2) and, for the first time, includes Alaska and Hawaii.

The map itself, which was drawn by the Meteorological Evaluation Services, is a real showpiece rightfully called by Cathey "as fine a map as has ever been made." The heavy slick paper composing it is of the highest quality. The color, too, is sensational; for each of the 20 hues that weave through the map in ameobic patterns (among them turquoise, orange, pink, yellow, green, lavender, peach, olive and brown) a separate plate needed to be made. Also adding to its impact is the map's size, an impressive 4 feet by 4 feet when spread to its full extent. Given its decorative nature, Cathey hopes the map will find its way onto the walls of many households if not to the shelves of every gardener's library.

The map does not designate states by name; they are named, however, in smaller and black and white versions. The reason for the omission, explains Cathey, is that, in his view, the "political boundaries" of a state are created for the purpose of election voting and therefore subject to change. They thus have no special bearing on a horticultural map. What's important, he continues, is the location of a place by latitude and longitude, and that you can find as you would on a road map. The

names of counties, however, are provided on the map.

The USDA map, as is the case with any zone hardiness map, chiefly serves the needs of the nursery industry, whose members use it to classify the plants they offer and also to determine when the weather in one area of the country or another would favor shipping and thereby expedite planting.

A book companion to the USDA map, has been written by Jacqueline Heriteau with H. Marc Cathey and the staff and consultants of the U.S. National Arboretum, *The National Arboretum Book of Outstanding Garden Plants*, (\$39.95, Simon & Schuster). "An authoritative guide to selecting and growing the most beautiful, durable and carefree garden plants in North America," according to the jacket, and picturing in color 450 of the 1,700 selections that the Arboretum deems "proven performers," the book makes learning about plants entertainment. It also includes a copy of the map on the end papers.

One of the criteria given to the 800-900 commercial and home gardening growers enlisted to evaluate the entries was that the plants be, in Cathey's words, "tough plants for tough times," resistant to pollution and able to overcome without the aid of pesticides the other problems that beset plants. Moreover, they should present an attractive appearance in the landscape in all seasons. The book should provide incentive to breed hardier and healthier plants.



Amalie Adler Ascher is a frequent contributor to *Green Scene* who lives in Zone 6 (Baltimore, Md.). Ascher has won more than a dozen awards for her garden writing from such organizations as the Garden Writers Association of America, Professional Plant Growers Association, and the National Council of State Garden Clubs.

#### **Map**

The new USDA Plant Hardiness Map is obtainable in its full form from the U.S. Government Printing Office. Numbered 001-000-04550, you may order by phone with a Visa or MasterCard, by calling 1 (202) 783-3238, or by sending a check or money order for \$6.50 to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.



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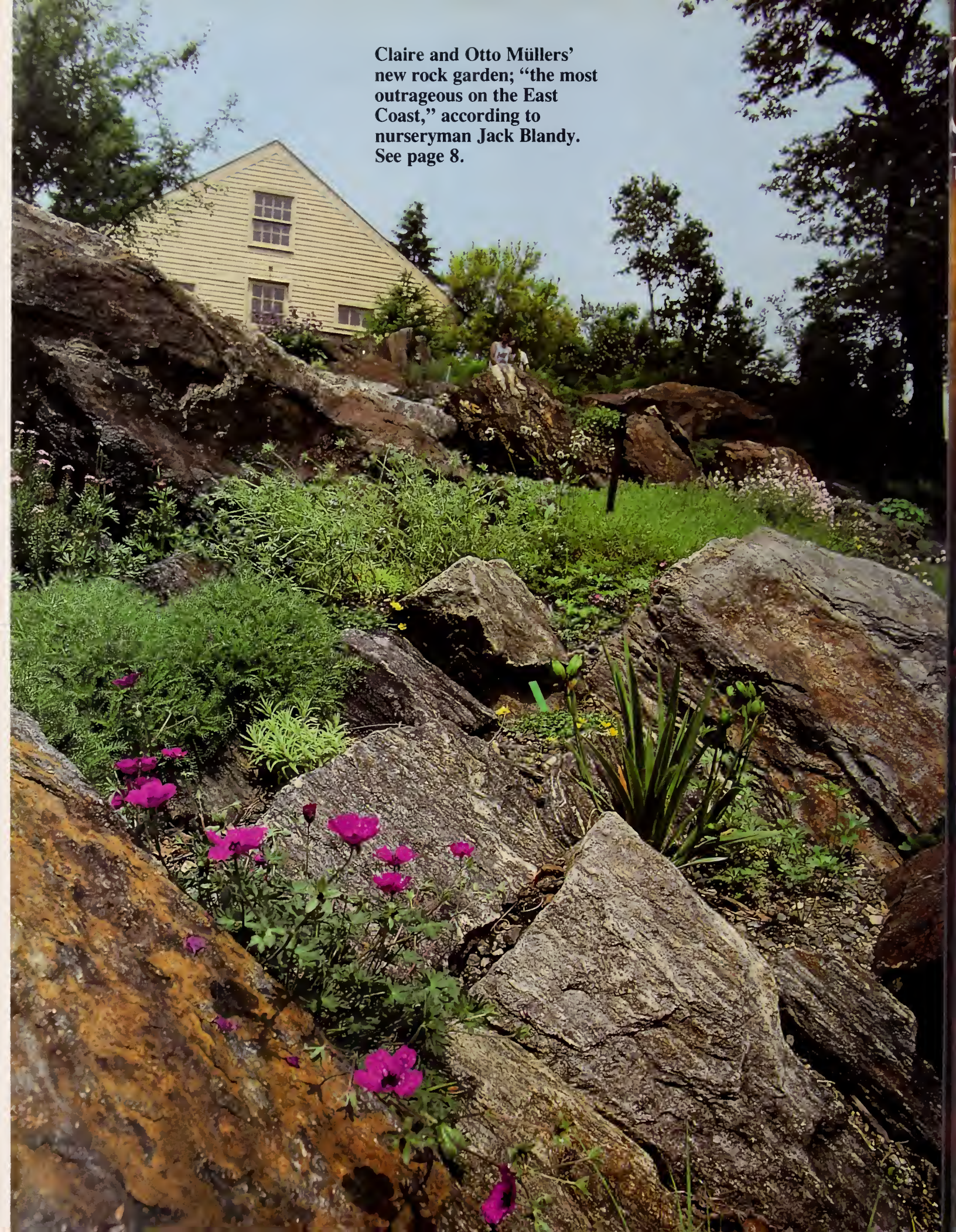
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**Claire and Otto Müllers'  
new rock garden; "the most  
outrageous on the East  
Coast," according to  
nurseryman Jack Blandy.  
See page 8.**





# GREEN SCENE

THE MAGAZINE OF THE PENNSYLVANIA HORTICULTURAL SOCIETY • NOV./DEC. 1990 • \$2.00



*The Compost Pet Tank:  
Art and Education*

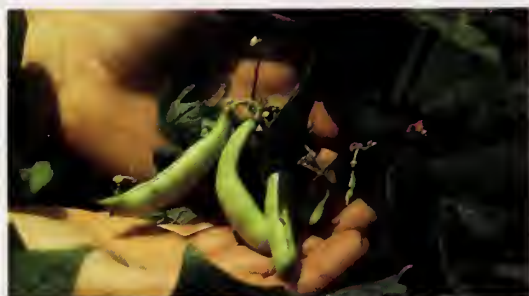




10.



19.



31.

1991 philadelphia  
**FLOWER SHOW**

endless  
spring

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**Front Cover:**

A stunning silhouette: a millipede relaxes on a seashell in a compost pet tank. See page 10.

Front Cover: photo by Andrew Harkins

Back Cover: photo by Ruth Flounders



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Volume 19, Number 2

November/December 1990

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# Gift Doldrums?

*Try Grass Wreaths, a Recycled Corncrib,  
a Vivarium or Prune a Shrub*

*By Jean Byrne*

If your credit cards are suffering from chronic fatigue at this time of year, you might find it restful to consider making a few gifts of handwoven grass wreaths designed under Ruth Flounders' tutelage on page 4. Or you might want to track down some aromatic gum resins, e.g. the seasonally popular frankincense and myrrh, to counter the early scents coming from the vivarium you will surely want to construct after reading Olivia Lehman Olivieri's piece on an indoor pet compost tank (page 10).

The gift that gets the Neiman Marcus Award for BIG in my book is the corner crib recycled into a gazebo that Jane Lennon, her sisters and brothers, husband and in-laws, bought and reconstructed for Joanna Reed on the occasion of Longview Farm's 50th Anniversary. And I'd rather have a letter any day from friends about their garden and family like the one from Donna Schaper sending annual season's greeting featured on page 14 than chocolates or a rummy fruitcake.

While you're reading Thomas Monroe's piece on pruning evergreens you might be inspired to give your credit card a further rest by creating a pruning certificate of service to a friend who has everything but good pruning skills. Someone I know pruned their host's unidentified flowering shrub as a "thank you" for their warm hospitality. The host is still filled with awe when she talks about the gesture.

**One Stop Holiday Gift Shopping at the Pennsylvania Horticultural Society**  
325 Walnut Street, Philadelphia 19106,  
(625-8250)

**Membership to PHS** for family or friends: \$35 for individual/\$45 for family; includes Flower Show tickets, subscription to *Green Scene, Newsletter*, etc. Please call Linda Davis if you need additional information (625-8265).

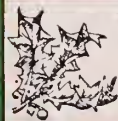

**Subscription to *Green Scene*:** \$9.75 for six issues (see form on page 34).

**Advance Sale Flower Show Tickets**  
\$9.75 adults; \$5.25 children (At Show: \$10.50). Anyone may buy advance sale tickets at the front desk at PHS headquarters from November 1 until the Show.

Through mail: **Members** may order tickets with special form mailed with their Flower Show tickets in January. No minimum order required; .50 handling charge for less than five. **Non-members:** for special order form call Ann Letter at 625-8250. Minimum order: 10 adults tickets or \$97.50

If you're visiting the Society headquarters, stop by the shop at the front desk. We have everything from scarves and stones to gardening books and trowels, children's gifts including flower presses, bug bottles and birdhouses to Safer's Insecticidal products.

Have a happy holiday and may your New Year be full of the happy life of green and growing things.





# WREATHS OF





# GRASS



By Ruth Flounders



The author gathers grasses attended  
by her pilgrim geese.

*continued*

photo by John Flounders



# WREATHS OF GRASS

photos by Ruth Flounders

**I**n my city life I gathered foxtails and panic grass from vacant lots to use with my community-garden-grown herbs in wreaths. I've made wreaths from anything at hand, including purple sweet potato vines and kudzu. I never tire of it.

I started gathering in earnest during my one summer without a garden, stalking the back roads outside the small town of Orwigsburg (Pa.) with clippers and bags and basket. I became more and more taken with the grasses, learning that all true grasses are members of the *Gramineae* family and adding new varieties to those I could identify.

Now I live on 13 country acres with fields, meadow, woods, creeks, wetlands and high ridge. It is a marvel of small habitats, a gatherer's heaven. I am learning a little more each year about the small arrivals and departures of wildflowers, birds, and the seasonal comings and goings of grasses.

We mark spring's progress here starting in earliest March, with each slight change as the autumn-mown grass becomes greener. Spring wildflowers bloom and are gone, some in a matter of days. Next spring I'll watch for the first sweet vernal grass as eagerly as the barn swallows' coming.

The variety of grasses succeeding one another on my own small holding is remarkable. Sweet vernal and *Sphenopholis* give way to velvet grass and brome grass,

timothy and the cultivated grains, followed by rough-bearded grasses of autumn and the welcome clumps of winter grasses punctuating the landscape. It's a slow constant change of color and pattern with many species I've yet to learn.

## *gathering grasses*

Gather grasses after the dew has burned off; moisture can cause them to spoil. Bunch like grasses together and hang or stand upright to dry. Grasses gathered early in their season and dried away from strong light retain their color. Some can be had in a variety of shades by cutting at different times. Sweet vernal grass is pale green when cut early and turns from pale golden to brown as it matures. Give any grass a shake *in situ*; if seeds fall it's probably too mature to dry well. Pay attention to which grasses grow in different habitats; arm yourself with a good guidebook.

## *grasses to grow*

Cereal grains are also of interest for wreaths and arrangements but can be hard to obtain in small quantities. Liberty Seeds carries four varieties of long-awned\* ornamental wheat, in packets that plant a three- by six-foot plot. Silver Tip has been

\*Awn: one of the slender bristles that terminate the glumes of the spikelet in some cereal and other grasses.

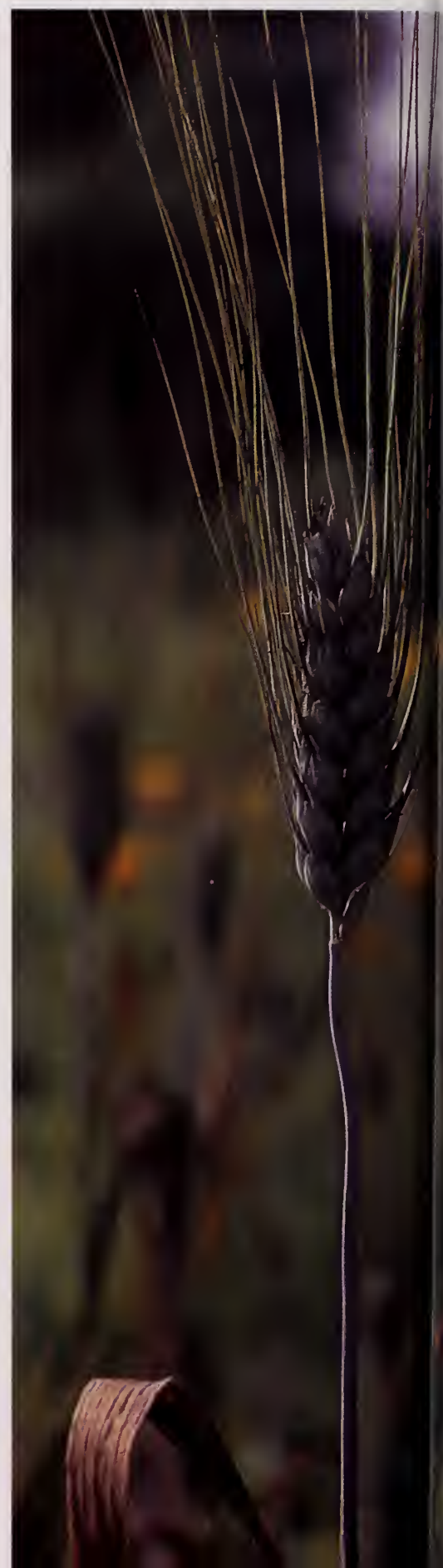
*continued*

## Grasses Suggested for Use with Wreaths (as they appear in article)

Common Name	Botanical Name
Foxtails	<i>Setaria lutescens</i>
Panic grass	<i>Panicum scoparium</i>
Sweet Vernal	<i>Anthoxanthum odoratum</i>
Sphenopholis	<i>S. pennsylvanica</i>
Velvet	<i>Holcus lanatus</i>
Brome	<i>Bromus spp.</i>
Timothy	<i>Phleum pratense</i>

At left, Ornamental wheat, Silver Tip.

At right, Wreath of autumn grasses on springhouse door.









# WREATHS OF GRASS

photos by Ruth Flounders



Top right, Spring grasses with white yarrow (*Achillea millefolium*).

Top left, Wreath of mixed grasses, detail below.





best for me (see source list). The black varieties appear mottled.

From Johnny's Selected Seeds I ordered hard red spring wheat (Polk) and oats (Porter) in four-pound bags that planted somewhat less than the 1,000 sq. ft. promised. I planted as soon as the ground could be worked, and the kinks worked out of our second-hand plough.

Scattering wheat seed on a spring morn-

***Scattering wheat seed on a spring morning, how could I help but feel my peasant ancestors singing in my blood?***

ing, how could I help but feel my peasant ancestors singing in my blood? I planted in wide rows, by hand as it had been done since time out of mind.

That afternoon, crows descended though I'd never seen them in the fields before. I tied new pie plates to the scarecrow and trundled her up the hill where seeds soon sprouted in spotty clumps. So much for my sense of ancestral *deja vu*

I harvested in late July with sickle and kitchen shears, piled my wheelbarrow high for the long downhill trip to the smokehouse for further drying. The grain wreaths are wonderful, but I think I'll try milling some as well next year.

### ***making grass wreaths***

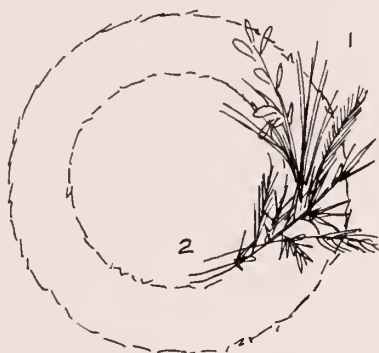
Materials: Wire ring or straw wreath base  
Medium-weight florists' wire for ring, or greening pins or 2½" wired picks for straw base

White Glue such as Tacky or Elmer's

Dried or fresh grasses will vary from pale green through shades of pink and purple and a range from pale gold to brown. Try them in combination with wild flowers, grouped together, or use just one variety, paying particular attention to line and rhythm. Be aware of the different textures as you work.

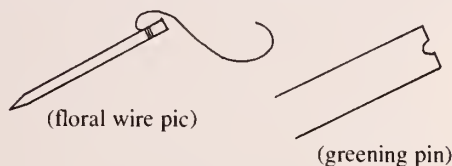
Take a small bunch of grasses, cut stems to a few inches and attach to ring with wire, or insert in straw base with pin. Place the next bunch just below the first, hiding stems and wire; attach to base. Continue to add new stems working in one direction from the inner ring out until you reach the desired size and fullness. Additional ma-

## **BASIC WREATHMAKING**



### **STRAW BASE**

- (1) Take a 4"-6" long bunch of grasses, fasten to a floral pic (or lay against inside center of form if using greening pins). Insert pic or pin into the base.
- (2) Continue to work in one direction, letting each bunch cover the base of the one before it, covering first the inside, then front, then outside of base.



### **WIRE BASE**

- (1) Fasten florists' wire to frame.
- (2) Starting on the inside of ring, lay a 3"-4" long bundle of grasses against frame and wrap with florists' wire.
- (3) Continue working in one direction until wreath reaches desired fullness, letting each bunch overlap the previous one.

terial can be glued in place.

Once you start making grass wreaths you'll have a new reason to take to the fields, roadsides and vacant lots, clippers ready, basket over your arm, anticipating what's hidden at your feet or up the road. I can't think of many better things to do.

### **Sources**

Johnny's Selected Seeds  
Foss Hill Road  
Albion, Maine 04910  
Catalog free

Winter and spring wheat, rye,  
oats, buckwheat  
4 lb. bags/Pkt. (400 seeds)  
Hard red spring wheat

Liberty Seed Co.  
P.O. Box 806  
New Philadelphia, OH 44663  
Catalog free

Pkts. Ornamental wheat  
Black Eagle, Silver Tip, Black  
Tip, Black Knight (the four  
wheats are usually hard to find  
and quite attractive)

Bountiful Gardens  
Ecology Action  
5798 Ridgewood Road  
Willits, CA 95490  
Catalog free

Pkts. Barley, millet, oats, rye,  
several varieties of wheat

J.L. Hudson, Seedsman  
P.O. Box 1058  
Redwood City, CA 94064  
Catalog \$2.00

Many native and naturalized  
grasses including big bluestem,  
fescues, sweet vernal, etc.  
scattered through catalog. A  
must-have for serious gardeners.

Ruth Flounders left the community garden at 43rd & Sansom in search of a bigger plot and is gardening on Sculps Hill in Schuylkill County, where she tends geese, gardens and a fledgling herb business.





# The Compost Pet Tank: Art & Education



By Olivia Lehman Olivieri

*Sometimes people  
need a small object  
in order to understand  
a big idea . . .*

*our earth is one  
complex system, and we  
are part of it.  
That's a big idea . . .*

*The Compost Pet Tank  
is a small object  
that teaches the big idea.*

— B. Kirschenstein

photos by Andrew Harkins

Although she does travel to a rustic house in Maine each summer, Philadelphia artist Barbara Bodle Kirschenstein does not really have to journey further than her Chinatown loft to catch a whiff of raw earth or overhear crickets serenading. A prolific designer, Barbara's most recent work is *living sculpture* — a small compost machine, which she grinningly calls "The Compost Pet Tank."

## how composting works

The mechanics of this curious invention are simple. Thriving within the glass confines of a vivarium\*, insects help convert dry kitchen scraps into a dark, aromatic humus, the bounty of the composting effort. While the "machine" does not produce a yield large enough to replace the conventional composting bins found in outdoor gardens, it does supply enough matter to keep houseplants well nourished, and their tenders connected to one of the earth's great regenerative processes.

A mixture of organic material and manure, humus is the part of soil that contains many of the nutrients plants need to grow. On uncultivated expanses of land such as meadows and forests, indigenous plants take part in a continual process of natural composting during which dead

\*Vivarium: an enclosure for keeping or raising and observing animals indoors.

From trash (mostly garbage) to compost pet tank, Creator Barbara Kirschenstein shows off the tanks near her Chinatown loft.







Water silently drips into the tank from a white cord, which is suspended in a water-filled cylinder. The water provides essential sustenance.

At left, Still life with milkweed bugs, potato and orange.

plants and animals enrich the soil and so ensure the promise of perpetual rebirth.

This self-adjusting wave of decay and renewal is exquisite in nature and is the model that organic gardeners rely upon as they attempt to cultivate land for food and pleasure. Dramatically praised by J.I. Rodale in the Introduction to his comprehensive guide, *The Complete Book of Composting* (Rodale Press, Emmaus, Pa. 1972), the compost heap is described as the foundation — “the heart” of organic gardening and farming.

### *revival of an ancient practice*

Now, although people have been farming organically for centuries, the use of compost has enjoyed a revival in the past few decades, as more gardeners recognize its superiority over the chemical fertilizers that became popular after World War II. Deceptive in their ability to promote large first yields, these highly acidic fertilizers ultimately rob soil of nutrients, reduce populations of friendly bacteria and insects, limit plants' resistance to disease and foster soil erosion.

*continued*



As one of the many enlightened "revivalists" of the '60s and '70s, Barbara found herself drawn to rural New England during those particularly organic decades. The Compost Pet Tank's beginnings can be traced back to that time during the early '70s when Barbara and her husband Alan moved "down East in Maine, 90 miles on from Bangor" and found their new home-  
stead awash in gravel. Soil? None. Every-  
where gravel. Fueled by the urge to garden,

*Compost tanks were installed at the Parkway School, Greenpeace Philadelphia, the Academy of Natural Sciences and the University of Pennsylvania's Small Business Development Center.*

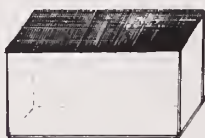
Barbara read everything she could on composting, and then, as is her fashion, "paid no attention to what she read." No built bins for this pilgrim: instead she began to dig shallow pits and fill them with household wastes. Leaves, branches, seaweed — anything biodegradable was also used in the composting experiments. The result was a humus rich enough to feed a robust garden filled with medicinal herbs and perennials. Her collection was so exceptional that when a local lumber company provided payment to homeowners whose gardens were injured by the company's excessive use of defoliant, Barbara's drew in one of the largest sums — \$1,100 for a plot only 30 feet by 20 feet.

### *a domestic discovery*

Fifteen years later, Barbara found herself living in the city again, yet girded with the same awareness that had her "breeding dirt" in Maine. Always glad to have the forest's aromas and textures surrounding her, Barbara created vivariums in large fish tanks for the family's Chinatown loft. Lizards and snakes prowled; crickets, darkling beetles and pill bugs were hunted. So life went in these small environments.

Because buying the insects to feed the larger animals became costly, Barbara decided to save money by breeding her own. It was when she started feeding dry kitchen waste to the expanded population in the tank that Barbara noticed an interesting change. By shredding the orange peel or lettuce leaf as they ate, the insects were aerating the decaying matter and so, hastening the progression of its bacterial breakdown. What Barbara now had on her hands was a composter with its own live shredding attachment — and one that produced some of the richest, darkest and

## BASIC SET UP



- Use a large tank; 24"x18"x10" is a good size.
- A top is necessary. Ones made of a fine wire mesh are best.
- The tank needs light. If natural light is unavailable, a fluorescent lamp would work fine.
- Temperature can vary; it's best to maintain at the household temperature (minimum 50°F, maximum 90°F). Just remember: the hotter the temperature, the faster the decomposition.



## THE FOUR COMPONENTS

When first planning the design of your tank, remember:

- A watering device is best placed between rocks and plants.
- The compost area needs to be built up with sticks and branches, and then covered with compost or rich garden soil. The compost area ought to be next to the plants.
- The plant area can also be built up with wood, but you can use potting soil instead of compost to cover the wood.
- Rocks of varying sizes, shells, and driftwood can be placed along the front and sides of the tank.
- The largest section of the tank should be the composting area, about 1/2 of the overall tank. The plant and rock sections should each cover about 1/4 of the tank.



## WATERING SYSTEMS

Like any ecosystem, the compost pet tank needs water. Here are three ways to bring water into your tank:

- Place water in shells or jar lids. Position around tank.
- Suspend wick (cord) in clear cylinder of water. Let end of wick dangle from top of cylinder, thus sending water into tank (see photograph).
- Place piece of cloth on fairly large plastic lid. Put water-filled jar upside down on top of cloth. Material will soak up water, sending into tank.

## SUGGESTED INSECTS & PREDATORS

- Milkweed Bugs
- Mealy Bugs/Darkling Beetles (start with about 100)
- Millipedes (arthropod, not insect)
- Crickets (start with about 500)
- Tree Frogs\*
- Toads\*
- Anoles\*

\* Do not place predators in tank until insects have been allowed to breed for two months.



## RECOMMENDED PLANTS & KITCHEN SCRAPS

- Inexpensive Succulents
- Carrot Top Plants
- Sweet-smelling Weeds
- Herbs
- Hens and Chicks
- Cedar Chips (keeps tank smelling sweet)
- Potatoes (provide homes for insects, and provide moisture)
- Small Bones (see how they travel around tank)
- Citrus Peels
- Lettuce Leaves
- Tomatoes
- Corn Cobs



✓ Avoid wet things — they attract fruit flies.





Above, Statice, tree branches, and local weeds form a bridge strong enough to transport today's passengers: two gypsy moth larvae.

At right, A compost pet tank on display with other sculptures in Barbara's Chinatown studio.

*sweetest-smelling* humus a gardener would need. (Cedar chips keep odors down.)

Recognizing that the tank could serve as an educational tool as well as an art piece, Barbara sought out places and people who might be interested in having one. Because of her efforts (and with the financial help of the Dolfinger McMahon Foundation, Limerance Art Gallery and the Black Foundation) compost tanks were installed at the Parkway School, Greenpeace Philadelphia, the Academy of Natural Sciences and the University of Pennsylvania's Small Business Development Center, where Barbara and her tank were clients.

### **building your own**

If you have children, an insect-tolerant curiosity, or maybe just a good sense of humor, why not consider building a compost pet tank of your own? With only a few hours of pleasant labor behind you (and some open-mindedness), you could be harvesting enough compost to nourish all of your indoor plants, and be recycling too! Keep in mind that Barbara calls her tanks "sculptures" for a reason — building a tank will stimulate your designing instincts. Artful placement of wood, soil, plants and

rocks can produce lovely contours, as these elements join together to form a miniature landscape. Here's how to get started:

(see diagrams)

Once the inhabitants of your tank have swung into action (it will take a few months), you can begin to harvest about one pound of compost each month. To feed your houseplants, the Rodale guide suggests making a compost "tea," by placing a cheesecloth bag filled with compost into water; when the liquid is a weak tea color it is ready to be used for watering plants. Compost can also be added directly into potting soil, and ought to comprise about one-quarter of the total mixture.

If your compost tank fails — if plants or animals die too rapidly — don't despair. Because these ecosystems are only experiments (without stringent rules, or a warranty), they are unpredictable, and worth trying again.

Those who are interested in learning more about these tanks, or in recommending any new composting strategies can contact: Toothpick Factory Enterprises, 902 Arch Street, Philadelphia, PA 19107; (215) 627-4566.



### **Sources**

For predators, tanks and some plants:

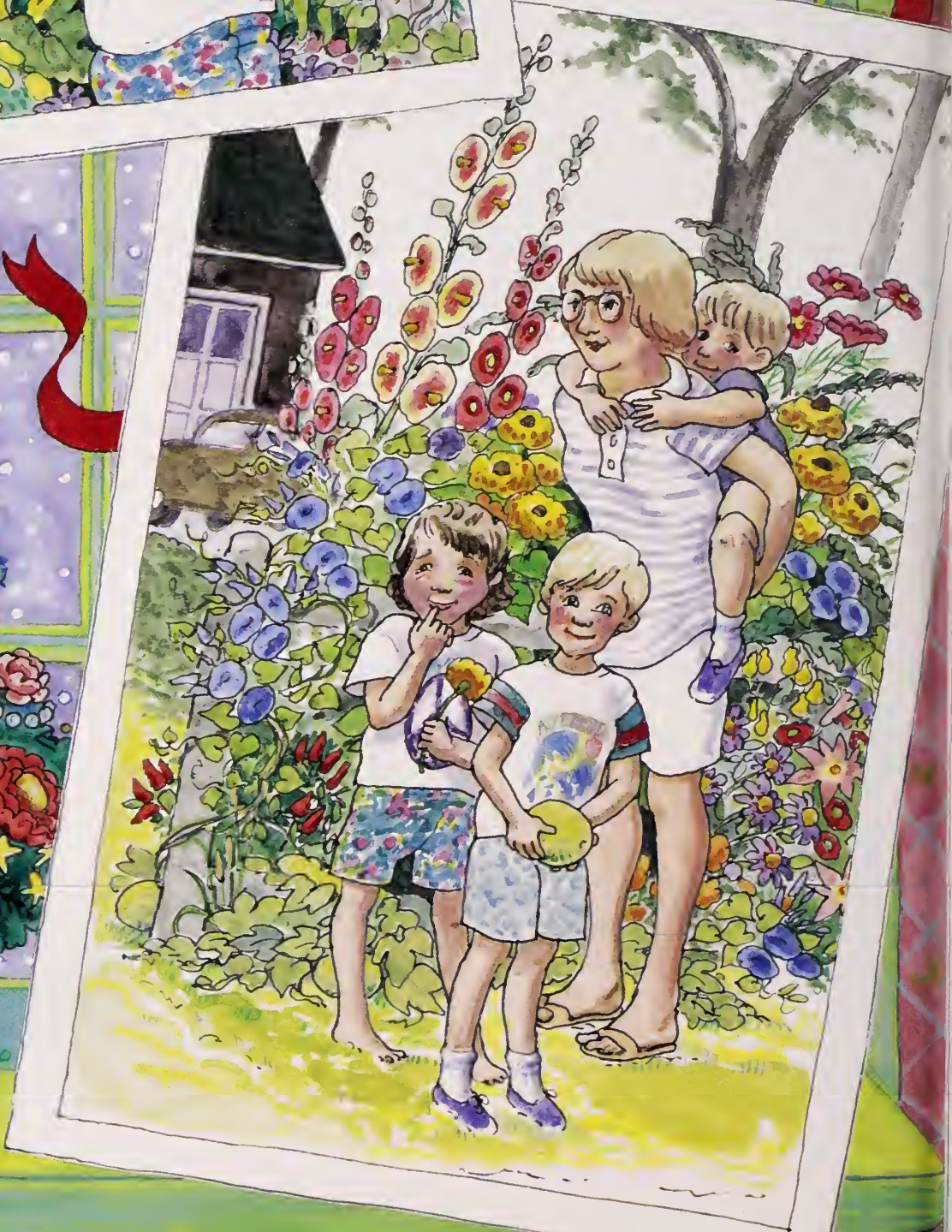
Martin's Aquarium  
101 Old York Road  
Jenkintown, PA  
(215) 885-8100

Worldwide Aquarium  
704 Garrett Road  
Upper Darby, PA 19082  
(215) 352-8000

Also check with local pet shops.

Olivia Lehman Olivieri lives and gardens in Narberth. She formerly worked for Philadelphia Green, as a neighborhood coordinator.







# A Gardener's Greeting in December

By Donna Schaper

Dear Friend,

Last year I planted too much because one day while roaming around in San Rafael, California, I wandered past one of the most gorgeous garden shops I have ever seen, and I loaded up on seed. Not any California seeds either but drought-resistant seeds. Everyone said we were going to have a dry summer in the East, and I believed them. As it turned out we had the wettest, soggiest season ever on Long Island. My gardens were unprepared: they were overly wet and overplanted. I had forgotten all the perennials by not trusting them to reappear. The gardens went to the party wearing the wrong clothes.

I was terribly embarrassed. Imagine growing miniature eggplants, yellow and red tomatoes, green and red chiles, and some melon that not one marigold on Ostrander Avenue had ever heard of, and then introducing these aliens to old-fashioned baby's breath and lavenders which mocked them at every turn. We even had to buy basil because the rows I planted never came up; they couldn't abide the crowding and just left. The morning glories from last year returned with friends and bordered all exits and entrances to the gardens.

I had worried about the mums off and on for months. The two colors, a rose and a red, had been purchased on a back road in Vermont. They filled their purpose well, showing the world of mums that not all mums dress the same. Greed and insecurity kept telling me to take cuttings because of the general problems with futures. (Who knows what the future will bring?) I forgot the cuttings only to be swamped this year with enormous mums. Their skirts had tripled.

Likewise the purple asters. They were a Connecticut extravagance. Their color was also a statement, maybe even a hostile one. I see no reason all gardens should be yellow and orange, if marigolds; or red and yellow, if zinnias; or even in the latest cliché, pink and white, if impatiens. These decisions may be yet another example of the McDonald's mentality: all businesses selling the same thing, and we acting as if all gardens were the same. The hegemony of certain plants has to be fought. These purple asters were armed. Again I figured they would be fragile, seasonal, showy in

the short-term. Guess what. Almost every day in August I had to disentangle the asters' tentacles from the mums' straight postures.

Bad planning has rewards and disappointments. My garden issued an invitation list that was much too long. But what a do! Vegetables were mixing with flowers they had never even met. California, Connecticut, and Vermont shook hands with New York. If planned, this color riot

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***The hegemony of certain plants has to be fought. These purple asters were armed.***

---

would have been banned by the Royal Horticultural Society.

I'm not going to plant so much again. I have abandoned the front gardens. Next year I'm not going to plant there at all so I can see who wants to take off and run the show. I'm pretty sure it will be the cosmos because they showed they could inch in between everybody and make it to the light. I've started a new garden in the back. That way I can trust the perennials in the front to return, and if they don't, I'll still have my insurance policy. I missed weeding. Plus the anxiety of watching the garden make its own decisions was too much for me. I'm the one who didn't trust the perennials to return. One season of splendor a believer does not make.

I know that more important things happened this year. The Berlin Wall came down. A poet became a president. We are being flooded by a melting cold war. The perennials reappeared long after everyone thought they were gone.

Somewhere between these sizable and not so sizable surprises, I am a parish pastor. The bulk of my day is a matter of 300 people's lives, which are no less amazing that the Communists or the morning glories.

Isaac, six, started first grade and does very well on his spelling and very badly with his handwriting. The teacher says he is always in a hurry. He is still the sensitive one. If he watches Land Before Time, the ending moves him to what he calls "tears of happiness."

Jacob is in nursery school and talks constantly. There is no doubt that he is very smart and complicated. He planted an apple tree in the back yard and the people who house sat for us this summer pulled it up. He hasn't forgiven them yet. No one really understands Jacob but everyone loves him. He is our only kid in the church choir; his popularity there reminds me of the purple asters.

Katie, four, remains feminine. At the church bazaar, the boys bought GI Joe lead pencils, and she bought several pairs of paste-on earrings. My daughter, the feminist. She has moved all the way beyond shy and is the organizer of her nursery school.

The downed Berlin Wall and Eastern Europe's finding their way to freedom makes the surprises in my garden seem plausible. Mixing it up seems to be the strategy of the age which, despite commentaries to the opposite, is not over. Nature is not over, ask my morning glories. History is not over, ask my dry cleaners. He wants us over there to pick the stuff up. Last Christmas here in Riverhead on Long Island, where we moved from the notorious Chicago, a sniper was on the loose. My mums were sleeping in the front yard, everyone else's curtains were drawn. Don't let my weariness at surprise bother you. I am not wearied by the seasonal miracles despite seeing signs and wonders all about. My eye is still pretty well fixed on the star. How's that for a post-modern Christmas greeting? My favorite writing this year is "The Futility of Global Thinking" by Wendell Berry. That should explain everything.

Love,

Donna Warren  
Katie Jacob Isaac

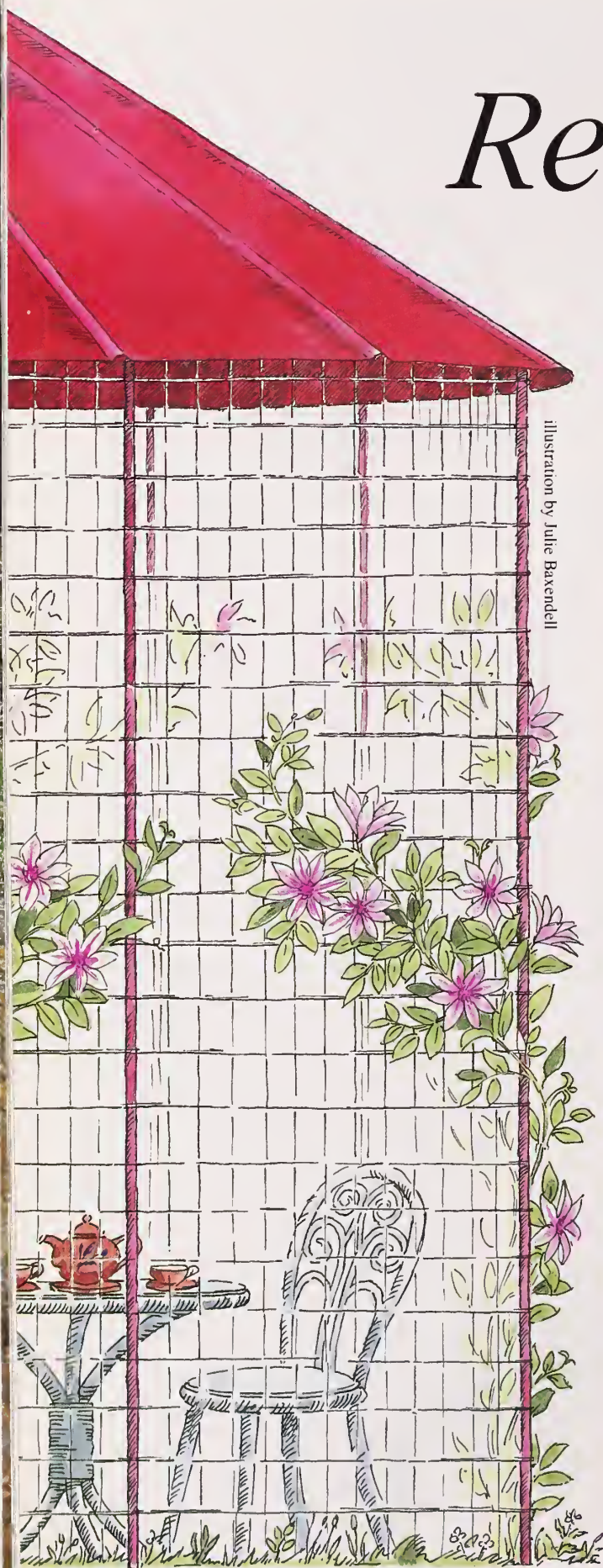
Donna Schaper is the pastor of the First Congregational Church in Riverhead. Formerly on the staff of the Tabernacle Church near the University of Pennsylvania in Philadelphia, she has moved on to larger pastures. She is the author of *Superwoman Turns 40*, *A Book of Common Power*, and *Common Sense about Men and Women in the Ministry*. When not planting or pastoring or mothering, she has a weekly humor feature on News 12 Long Island.



# Recycling a Garden Building

 By Jane Reed Lennon

illustration by Julie Baxendell



photos by Patrick W. Radebaugh



The size of a corncrib was hard to judge. One the buyers considered was dwarfed by a huge silo; this one loomed large and heavy over a shed. Both were 14 feet across and 17 feet tall.



***A gift that brings pleasure to the recipient, the givers, and visitors and recycles a sturdy structure that might otherwise be a trash problem or scrap metal.***

***Corncribs come in an assortment of prices, conditions and sizes. They were offered at \$1,000 and \$100. They had been squashed by trees, eaten by rust, washed away in floods and blown over in the wind.***

recycled. Sculpture, furniture and containers rescued from lost gardens are re-used. Bits of ironmongery and stone from demolished buildings are recycled into garden designs.

My mother's garden, Longview Farm, is the scene of a recycled gift. To celebrate Joanna Reed's 50th year at Longview (*Green Scene*, May 1990), my four siblings and I and our four spouses offered Joanna a summer-house or gazebo. We would buy it or build it and install it where she chose. The nine of us proposed at least nine schemes: Chinese waxpaper umbrellas, a rusticated Adirondack pavilion, an elegant

wooden gazebo, various grape arbors and pergolas. Brother-in-law Matthew suggested a corncrib.

Joanna said she would quite like a corncrib. A round wire corncrib with a metal roof, erected at the top of her meadow, up the hill from the barn at Longview Farm.

A corncrib? Yes; a corncrib is well designed, well made, easy to assemble, longlasting and available. It comes ready to erect in assorted sizes and heights. The sides are made of wire mesh — the most perfect sort of surface for a clematis to climb. The wire sides vary but most are nearly invisible in the landscape. Paint the wire mesh with black Rustoleum and a fence roller to make it even more invisible. The roof of the corncrib is metal, usually galvanized, made up of pie-shaped pieces. You can paint these, too, to suit any landscape plan. The pie-shaped roof pieces join, leaving a hole in the center of the top. The hole is covered with one of an assort-

*continued*



Standing behind the corncrib summerhouse and looking through it toward the view, illustrates how nearly invisible the wire sides are in the landscape. Next season the sides away from the view will be planted with clematis.





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The corncrib summerhouse, at the top of the meadow, above the garden, centers itself in many different uphill views.

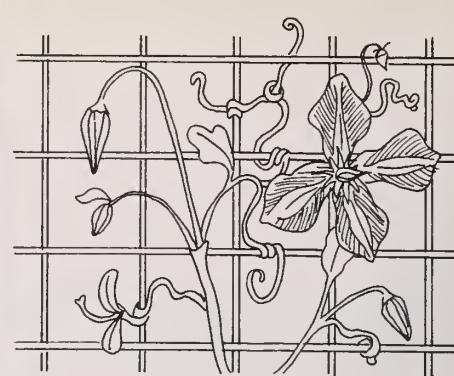
ment of pudding basin shapes and chimney objects with vents on the leeward side, vestiges of the corncrib's former life.

A corncrib was what the lady asked for. Patrick and I, the most rural of the group, had the job of finding a corncrib. We called Farmers' Supply and Agway and discovered that new corncribs are expensive. We then advertised for a used one and patiently waited for a corncrib to come to us. Corncribs come in an assortment of prices, conditions and sizes. They were offered at \$1,000 and \$100. They had been squashed by trees, eaten by rust, washed away in floods and blown over in the wind. When Patrick found the right one, the retired farmer who'd put it together helped take it apart. He still had the instructions for assembly, dated 1956. The corncrib was taken apart, stacked into our pickup truck and hauled away in one day. No attempt

was made to reuse the nuts and bolts. We purchased a new bolt cutter for the take-down job and new bolts to reassemble.

The parts of the corncrib were unloaded at the top of the meadow and the delicate business of choosing the site began. From the view spot you look across the meadow to trees along the fence. Patches of garden flowers show through the varied tree line and parts of the two houses and the big red barn on the property are visible. Over the barn and buildings the view spot on the north-facing hillside looks out over lesser hills to the Blue Mountains of Reading, Pa. It is the only place on the property where 'Longview' seems a logical choice of name.

The grandsons hauled a table and chairs up to the site and for several days all tea breaks were enjoyed at the top of the hill. Joanna, her visitors and family moved the table and chairs a little to the left, a bit



Wire mesh is the most perfect support for clematis. Clematis leaf petioles curl and twine around the wires as the plant ascends.

further uphill, back down 10 feet — all the while testing the view. If you sat in a chair, the rafters of the new house 2,000 feet downhill were not visible, but if you stood they were. The table and chairs were moved again. Once we chose the actual site, we carefully marked it out on the ground.

Pierre and Joshua painted eight roof sections and the pudding basin cover with barn red roof paint, before the building was put together. We set eight posts in a circle to anchor the sides of the corncrib at the base of each joint. Our corncrib will not blow over in an autumn gale.

Finally, before erecting the corncrib we had to decide about height. In the barnyard of its former home the sides had been 14-foot tall, topped with three feet of roof and the pudding basin. My brother Jamie and husband Patrick took turns holding a pole with a little flag tied to it, to judge the height of the new structure. Eighteen feet above the ground, the flag seemed as high as a radio tower. Eventually they decided to cut down the sides to 11 feet for an overall height of 14 feet. They cut and reassembled the eight sides. They put on the newly painted roof and the whole structure was firmly bolted to the posts in the ground. Rebuilding took two good workers and two child helpers two days. They then spread a pickup load of gravel on the floor, and hung a lamp from the center of the roof. The grandsons moved the table and chairs inside to complete the project.

The corncrib summer house is a perfect choice for this seeming rural spot. It is just visible enough from the garden to lure visitors and the gardener uphill through the meadow. Although there are many new houses in Joanna's immediate vicinity — from the corncrib view spot the green and distant view does not include any of them. The corncrib is a well chosen rural feature for a rural garden.

Jane Lennon gardens and writes at Cherrymont in rural Berks County with her husband Patrick Radebaugh and their son Pierre.



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# Maintaining the Backbone of Your Landscape:

## *pruning your evergreens with care*

⊗ By Thomas M. Monroe

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photo supplied by Conard Pyle



Pruning *Ilex* in winter encourages the plant to produce more berries for the fall, as on this *Ilex* 'China Girl.' *Ilex* flower and set fruit in spring and summer, so avoid summer pruning where berries are important.

*continued*



## Maintaining the Backbone of Your Landscape

Individual tastes and preferences determine our pruning practices and, fortunately, most plants can tolerate a wide range of pruning methods. Often, however, we destroy or distort such garden treasures as our evergreens with poor pruning practices, and improper pruning can be worse than no pruning at all.

Evergreens provide an interesting and wide range of plants, with many ways to prune them. They are defined as plants that retain leaves throughout the year; they fall into two basic groups: broadleaf and narrowleaf. Broadleaved evergreens include the genera *Berberis*, *Buxus*, *Cotoneaster*, *Kalmia*, *Pieris*, *Rhododendron* and some *Viburnum* (see chart). Narrowleaved or needled evergreens include the genera *Abies*, *Cedrus*, *Chamaecyparis*, *Juniperus*, *Picea*, *Pinus*, *Taxus*, *Thuja*, and *Tsuga*. Many narrowleaved evergreens are referred to as conifers, although not all conifers are evergreen, e.g. *Metasequoia*, *Larix* and *Taxodium*.

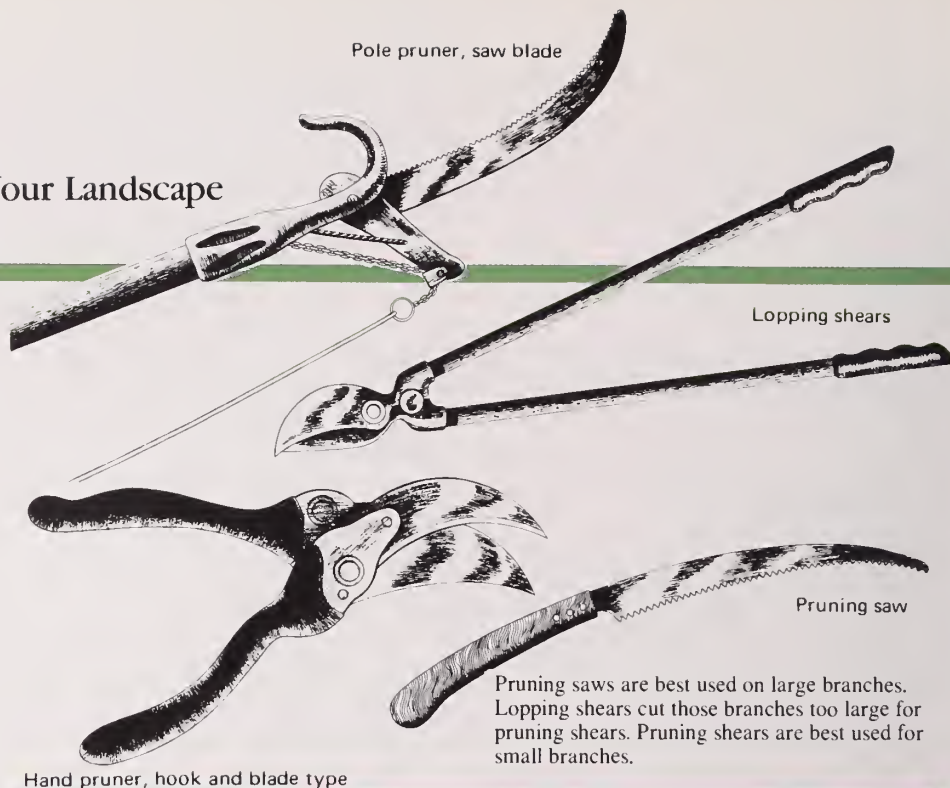
When your plants need pruning, ask yourself a few questions before approaching them. Why are you pruning: to cut back vigorous growth or to encourage it? to remove dead branches? to rejuvenate older shrubs? or perhaps to use greens for holiday decorations? Once you have established your reasons for pruning, consider several factors: when is the best time of the year to prune a particular plant; the habit of each plant and its role in your garden; temperature, flower, fruit and bud development. These factors will help you decide when, how and how much to remove.

### winter pruning

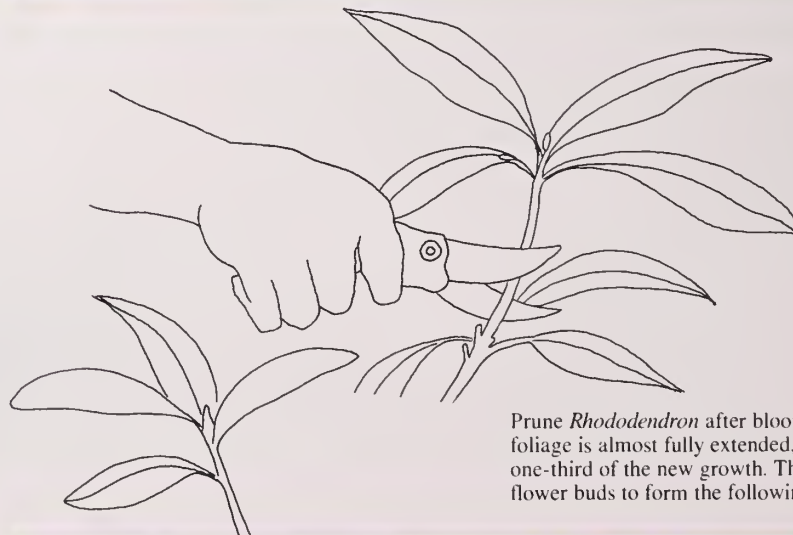
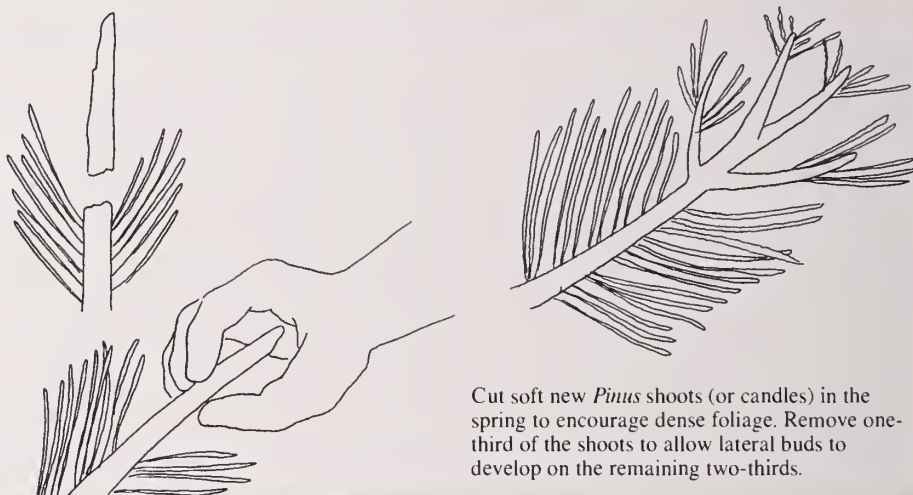
For many evergreens, pruning is best done in winter months from December to late March.

Winter pruning helps to form healthy plants and reduces maintenance as plants mature. During winter, dead and diseased wood can be removed and cuts made to encourage the most new growth from your plant in the upcoming season. Select locations to make cuts slightly above lateral buds. New growth is initiated from these buds and careful cuts will be hidden by new shoots.

Temperature plays an important role in winter pruning as plants must be dormant. Fall's warm temperatures might encourage



Pruning saws are best used on large branches. Lopping shears cut those branches too large for pruning shears. Pruning shears are best used for small branches.







Pruning new growth on *Rhododendron* after they bloom encourages maximum flowers the following year. (*Rhododendron* 'PJM' shown here.)

new growth, which unable to harden off will be damaged by cold. To insure dormancy, the weather must be cold long enough to suppress all growth. Temperatures should, however, be above freezing

when you prune; when it's below 32°F wood becomes brittle and breaks easily.

My favorite time to prune is late February to early March. In the West Chester, Pennsylvania area, temperatures are becoming

milder, and I feel the spring itch.

At that time, winter damage is more visible and can be easily removed. To recognize winter damage, make a longitudinal cut through a bud. The inside should be green with no brown coloration. Check branches by scraping a piece of bark to see if the cambium (vascular tissue) is green. If brown, the branch has died back at least to that point.

Winter is also the best time to rejuvenate older evergreen shrubs that have become overgrown or leggy. *Buxus* (boxwood) is a good example of a plant that can be rejuvenated. To initiate rejuvenation of an old or overgrown shrub, cut out several large branches from the center of the shrub, cutting at 1 foot to 2 feet from the ground. This creates a less conspicuous opening, which allows light to enter and encourages new growth at the base to regenerate along the stems. Remove more branches each year until sufficient growth develops at the base of the plant, then remove all remaining older branches.

Needled evergreens of the genus *Cedrus* and *Picea* should be pruned in winter, never in spring. Lateral buds on these plants are not fully developed in the spring and no new growth will result that year after pruning. *Pinus* is a special case where lateral buds for new growth do not develop on old wood. Soft new shoots that develop in the spring, known as candles, can be cut then. Removing one third of the candle, permits lateral buds to develop on the remaining two thirds.

Broadleaved evergreens grown for their fruit displays such as *Berberis*, *Cotoneaster*, *Ilex*, *Pyracantha* and *Viburnum* are also best pruned in late winter. If you prune them in the spring, you will reduce the fruit display.

### summer pruning

Summer pruning is best used for vigorous growers, hedges, and formally trained plants. Shearing is best for needled evergreens, e.g. vigorous growers such as *Taxus*, *Thuja*, and *Tsuga*. Again, make your cuts at select locations where lateral shoots will develop; when growth slows in summer, it's harder to hide fresh pruning cuts. To encourage new growth during the summer, for example on *Ilex*, prune new growth that has just become woody. This practice

*continued*



Broad- or Narrow- Leaved	Plant Name	Winter Pruning	Summer Pruning	Selective Pruning*	Shearing	Renewal Pruning	Special Comments
N	<i>Abies</i>	•		•			very little pruning required
B	<i>Berberis julianae</i> <i>gladwynensis</i>	•	•	•	•		can withstand heavy pruning
B	<i>Buxus</i>	•	•		•	•	renewal pruning best for old plants
N	<i>Cedrus</i>	•		•			don't prune in spring before buds have formed
N	<i>Chamaecyparis</i>	•		•			be selective with dwarf forms
B	<i>Cotoneaster salicifolia</i>	•	•		•	•	withstands heavy pruning
N	<i>Cryptomeria</i>	•		•			do not prune back into old wood
B	<i>Euonymus</i>				•	•	can be sheared several times each year
B	<i>Ilex</i>	•	•	•	•	•	late summer pruning reduces berries
N	<i>Juniperus</i>	•	•	•	•		can withstand heavy pruning
B	<i>Kalmia</i>	•	•	•		•	prune late spring after flowering
N	<i>Picea</i>	•		•			do not prune back beyond existing needles; do not prune in early spring
B	<i>Pieris</i>	•	•	•		•	prune selectively to maintain natural habit
N	<i>Pinus</i>	•		•			only pinch new growth in spring
B	<i>Pyracantha</i>	•	•	•		•	late summer pruning reduces berries
B	<i>Rhododendron</i>	•	•	•		•	prune late spring after flowering
N	<i>Taxus</i>	•	•		•	•	can be sheared several times each year
N	<i>Thuja</i>	•	•	•	•	•	withstands heavy pruning on outer branches. Do not prune into older growth
N	<i>Tsuga</i>	•	•	•	•	•	can withstand heavy pruning
B	<i>Viburnum</i> <i>x rhytidophyloides</i> <i>V. rhytidophyllum</i> <i>x pragenese</i>	•		•		•	late summer pruning reduces flowers for next year

\*Selective pruning: prune select individual branches to improve the habit of the plant versus trimming the entire plant

encourages more vigorous new growth, but will reduce berry production.

### tools

A few well-maintained, quality tools such as hand shears, loppers, hedge shears and a pruning saw will serve you well. Keep tools sharp and clean to insure good cuts. Clean cuts heal more quickly and are less susceptible to diseases that enter through wounds. Your first choice should be a good pair of scissor-type shears; avoid mallet types because they crush the stems as you cut. You will use your hand shears more than any other tool, so choose a good pair, comfortable to handle. Always cut with the blade side towards the center of the plant to avoid creating unsightly stubs.

Hedge shears are fast and great for

shaping formal plants or hedges, but it is easy to trim too much, so exercise care when using them. For larger caliper branches, long-handled loppers provide more leverage. Choose a pair with strong handles that will not break or bend when you apply pressure. Use saws on the largest caliper branches; hand-folding saws work well in tight areas. Pole saws help when branches are too high and climbing is difficult.

F.F. Rockwell's moral in *The Little Pruning Book* is "There is only one thing that pays better than having a sound knowledge of pruning and that is to use it!" Evergreens are the backbone of our landscapes and proper maintenance will have strong and lasting effects on the development of these plants in your garden.

### books about pruning

*The Little Pruning Book*, F.F. Rockwell, Peck, Stow & Wilcox Co., Cleveland, OH. 1917

*The Pruning Manual*, Everett P. Christopher. MacMillan Co., NY. 1960

*Brooklyn Botanic Garden Pruning Handbook*, Brooklyn Botanic Garden, NY. 1957

All About Pruning, *Green Scene*, July/August 1973, Vol. 11, No. 6

All these books are available from the Pennsylvania Horticultural Society Library. PHS members may call (215) 625-8256 to borrow books by mail.

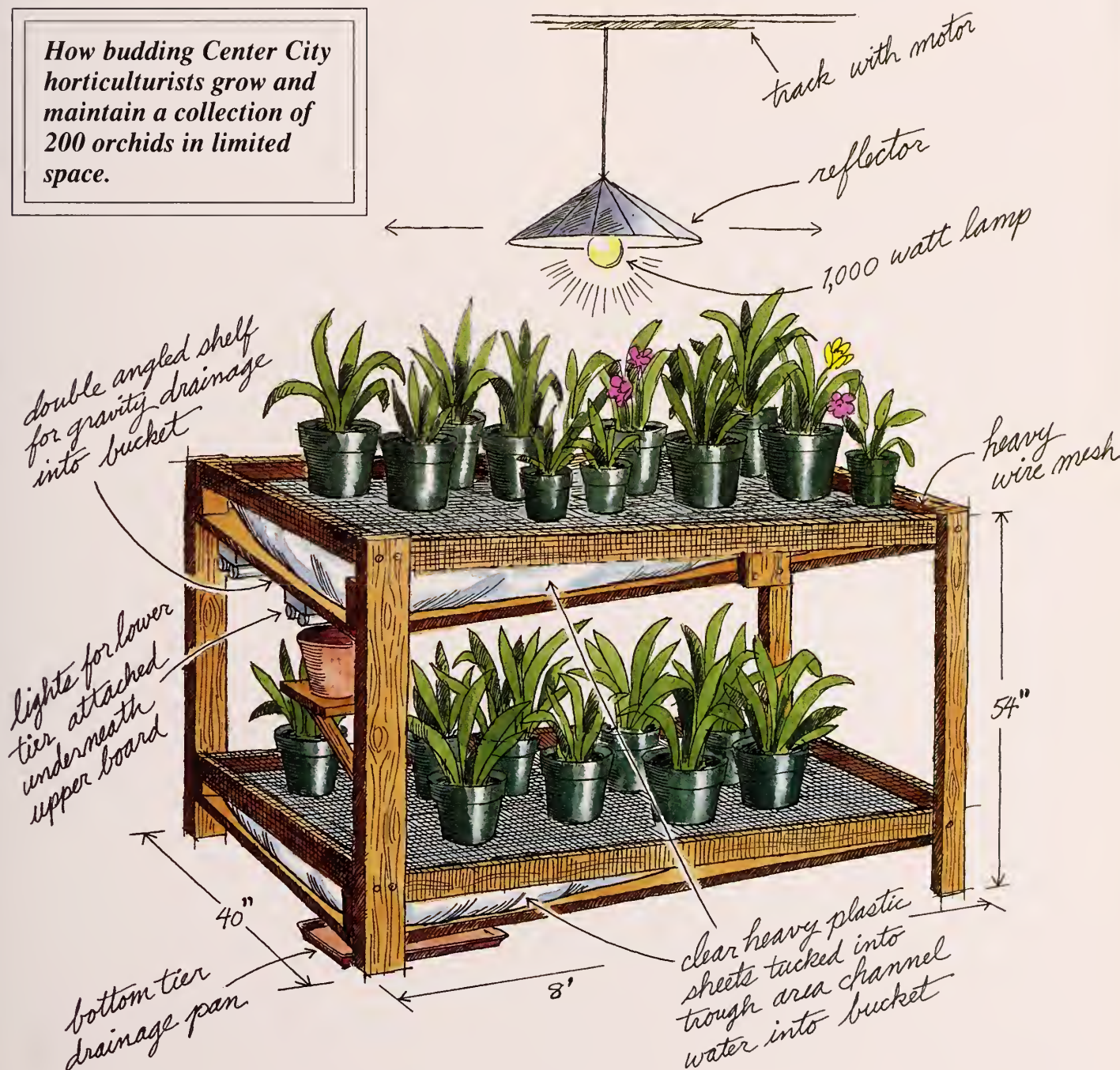
Thomas Monroe's B.S. in Horticulture is from the University of Maryland. He currently works with Angelica Nurseries in Kennedyville, MD, and gardens in West Chester, PA.



# An Automatic Orchid Watering Contraption

By Curtis Lizenbaum

How budding Center City horticulturists grow and maintain a collection of 200 orchids in limited space.





# An Automatic Orchid Watering Contraption *continued*

One afternoon in 1980, my parents bought a rather demure group of five orchids, varying in color and species, and placed them on a card table on the third floor of their Society Hill home in Philadelphia. No one occupied this room, and a west-facing window permitted the requisite degree of light.

Orchid cultivation on the third floor was blissful in those days. Caring for a mere five plants — whether philodendron or exotic orchids — consumed but a few moments, even with fertilizing. My parents even had time to found the Center City Orchid Society, now a congenial group of 60 enthusiasts who meet on the third Monday evening of the month. But, alas, as every orchidist will avow, orchids are addictive. So, the infectious five plants became a prideful nine, conglomerative 27 and, eventually, a perspirational 82. All within two years.

The sheer number of such a populace easily usurped the family supply of card tables. To offer additional room and protect the rugs from daily misting, we laid down large sheets of clear vinyl acetate and then spread the orchids across the floor. Misting became fun, for it merely involved waving a hand-held pressure sprayer back and forth across the collection. But it was the floor placement that gives rise to my story. Watering and feeding was done on Sunday mornings. *Each individual pot* had to be picked from the floor, carried to the bathroom sink, doused with water and fertilizer, and carried back to its resting place on the vinyl. We had to innovate — and soon.

## *planning the move*

The home's basement measures 26 feet by 14 feet. It traditionally served as the family recreation room garnished with TV, VCR, my home repair nook and Dad's office. What about, I thought, rearranging the layout and building some tables large enough to hold all the orchids — current and future — with a gravity system for automatically draining excess water; we wouldn't have to carry the plants back and forth to the bathroom sink? The operative word was "automatically."

I first measured (averaged) the space a growing orchid occupies — both the pot and leaf space in width and height. The common two-by-four wooden post, being eight-feet long, could accommodate a good ten rows placed longitudinally. The width of the frame could not reflect the same eight feet because the heaviness of the plants would cause sagging in the middle. Anyway, an eight- by eight-foot frame

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*So, the infectious five plants became a prideful nine, conglomerative 27 and, eventually, a perspirational 82. All within two years.*

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would be too unwieldy for the basement area. Cutting an eight-foot, two-by-four in half provided a rigid, overall mainframe of eight feet by four feet.

Any source of artificial light could not be situated closer than 18 inches to orchid leaves or flowers. Given this restriction and the height of the ceiling where the support for the track lighting would be placed, a little math work directed that the frame for the shelves could be 54 inches high, thus permitting two separate levels, one 10 inches off the floor and the other at the top of the structure.

The pots sit on a flat, wire mesh material composed of half-inch squares through which excess water falls into the drainage system. The wire mesh was perfect for this reason but it came in four foot widths, the exact same size of the frame's width. The only way I could permit enough margin to attach it onto the mainframe was to decrease the frame's width from 48 to 40 inches. Now I had four excess inches on each side on which to attach the mesh.

The drainage system required real thought. Optimally I could have jackhammered the cemented basement floor and laid drain lines tied into the main plumbing system, which was easier said than done. What I needed was an automatic system that would centralize the excess water, from watering and fertilizing into a precisely controlled collection point.

I placed a piece of heavy plywood (a few inches smaller than eight feet by four feet so it would fit *into* the frame) just under the wire mesh where the plants rested, slanted it downward from north to south, and then

slanted it again from east to west. With the water directed into only one drainage corner, only one collection bucket was needed per shelf.

The top shelf's position was 54 inches high so there was plenty of room to place a sub-shelf (think of it as a mezzanine) to support the collection bucket. A small bucket filled too quickly; a large bucket would be too heavy to carry to the sink to empty. A bucket nine inches high was perfect. The same space, though, was not available for the bottom shelf whose wire mesh level sits only 10 inches off the floor. By the time the slanted drainboard gets to the collection area, the height is only 3½ inches. If I shifted the shelf upward, the entire unit would have to be made higher, and the top row of orchids would have been too close to the light. So I used instead a wide pan, three inches high, resting on the floor.

What about the water, itself, as it fell from the pots onto the plywood? The trajectory of the growing stream could miss the permanently positioned bucket.

The vinyl sheets from the old third floor setup sparked the answer. I bought sheets of the heaviest gauge possible, draped each across the mainframes *under* the wire mesh, pressed them down onto the angled plywood as one would line a deep box with tissue paper, fastened them onto the sides of the frame, and slit a hole in the shape of a funnel where the water was targeted to exit into the bucket or pan.

Feeding the collection requires 1/2 cup (50 level teaspoons) of Peters soluble orchid food diluted in 50 gallons of tepid water. The concentration for the fall, winter and spring is the 20-20-20 variety, and for the summer the 30-10-10, since more nitrogen is needed for the stronger growing months.

We initially fertilized by dipping a

*continued*

At top, Overview emphasizes lower level of watering contraption with more fans, catch pans on the floor and different lights using an equal mix of warm and cool fluorescent tubes.

Bottom left, A submersible electric pump, 1/15 horsepower, moves the fertilizer from the trash can to the hose for easy distribution.

Bottom right, This picture of the upper level was taken only with the light of the gas-filled incandescent light showing how close the area for the orchids comes to natural daylight.









*Paphiopedilum haynaldianum* thrives in the recreation room on the contraption.

watering can into the liquid fertilizer, contained in a 32-gallon plastic trash can. Again this proved to be too much walking to and from each plant, so we began to use a brass siphoning mixer. Under this method, a bucket of the liquid was placed in a stationary tub. Attached dually to the tub's spigot and then to the liquid, the siphon mixer created a vacuum pressure from the spigot's force. The vacuum pulled the liquid from the bucket and into a garden hose, thus promising easy, on-the-spot servicing for each orchid. Unfortunately, the vacuum's capacity was not strong enough to draw the proper ratio of water from the spigot and liquid from the bucket. We added a submersible electric pump resting at the bottom of the filled trash can. Voila! The 1/15 horsepower pump offered the right pushing power to move the liquid food from the trash can to the hose.

### lighting

There are two considerations regarding an indoor, artificial lighting system: type of light used and duration. *Photoperiodism* is a plant's response to the relationship between the length of both light and dark in a 24-hour period. Robert Coia, member of the Center City Orchid Society, had written a paper describing seasonal guidelines for orchids:

February and March . . . . . 14 hours of light

April to September . . . . . 16 hours of light  
October and November . . 14 hours of light  
December and January . . 12 hours of light

As for types of light, there are fluorescent and HID (High Intensity Discharge from an incandescent source). HID creates light by passing electricity through vaporized gas under high pressure.

We started with a 400-watt HID metal halide bulb, which contains 70% of the natural color spectrum. Housed in a yard-wide, white parabolic reflector, the bulb moves along a six-foot track attached to a ceiling joist. These joists are *above* the drop ceiling's fiberglass panels. I cut the panels in half — just enough for the light fixture to pass freely — and re-attached them onto the drop ceiling by adding a new crossbar to hold the shortened sides. A small motor attached to the light track moves the bulb at the imperceptible pace of 15 minutes per one-way trip. After a few months, most of the leaves looked a little undernourished so we exchanged the bulb for a 1,000-watt metal halide. The lights for plants on the lower level are positioned on the underside of the top shelf and comprise four units of two fluorescent lights each, one cool white, and the other warm white, thus offering each other's benefits to the area's spectrum.

I planned and built two of these structures in six weeks. Each has some 125 screws and collectively cost \$200 excluding the

lighting system and electrician who wired dedicated lines from the main electric box and connected the entire system to an automatic timer. Six small fans, placed at the ends of the bottom and top shelves, create a gentle, ventilating stimulant.

Nowadays my parents' 200-plus orchid collection takes just 90 minutes to water and fertilize completely once a week. In addition, a 15-minute midweek watering satisfies thirstier plants. All this contrasts with three hours for watering and fertilizing back when they had 82 plants.

### Center City Orchid Society

Mary Ann Skaziak, President

Contact: Mildred Lizenbaum  
Corresponding Secretary  
(215) 627-1981

Meet third Monday, every month  
from September to June, 7 p.m.,  
Pennsylvania Horticultural Society,  
325 Walnut Street, Philadelphia.

Dues: \$18/individual; \$25/couple

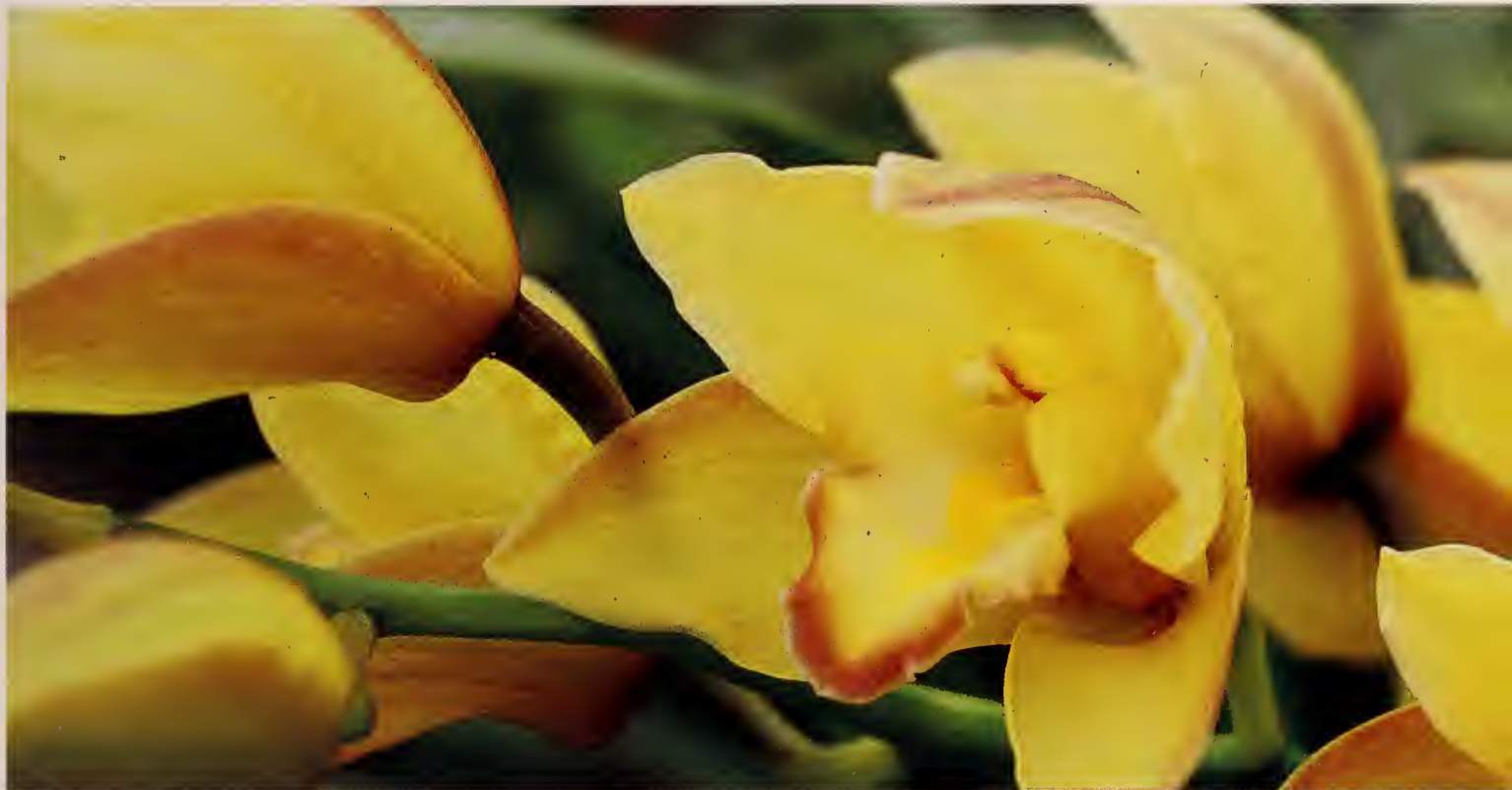
Curtis Lizenbaum is a devoted tinkerer. He formerly owned a supermarket and is now in the process of creating a new, international food exporting company.



# Getting Started With Cymbidiums

 By Andrew Ducsik

photo by Lisa Dahlbeck



'Pat Nixon,' a late bloomer and the author's favorite.

About 10 years ago I saw my first cymbidium. I was working part-time at Meadowbrook Farm, filling in with winter work before my landscaping began again in the spring. Liddon Pennock, owner of Meadowbrook Farm, kept his cymbidiums growing at the end of one of the large greenhouses, close to the glass, exposed to a cold draft. I was fortunate enough to secure a small piece of the yellow cymbidium 'Rhapsody Springtide' when it was repotted. During that winter I bought three more plants from Meadowbrook Farm. I was on my way. When I entered it in the 1988 Philadelphia Flower Show it was sporting six spikes.

I brought my cymbidiums home, in full flower, and placed them in our den. You could see them through double French doors from the living room. I made a tiered display of the plants with ferns covering the pots and filling in blank spaces. All was well. After almost two months in flower, the plants faded. What was I to do with them now? They took up a lot of space and were not really decorative enough out of flower for such a prominent spot.

Meanwhile, as I browsed through the

*Time Life Encyclopedia of Gardening*, on page 25 I noticed a beautiful picture of a group of cymbidiums of mixed colors in full flower. As I read the caption my heart sank: "Cymbidiums, with their lush foliage and tall arching spikes of long-lasting flowers, repay in beauty the extra care they demand: a cool greenhouse where the night temperature can be monitored year round." I had no greenhouse. I had no prospect of a greenhouse. I could not monitor night temperature. I thought about what a greenhouse provided and how I could best simulate a greenhouse environment. My solution was to grow the plants in the cellar, which may sound strange to some.

I hung two fluorescent light fixtures, each with three bulbs directly over the plants. The fixtures contained two standard fluorescent tubes and one gro-light tube. The lights, connected to a timer, stayed on 14 hours a day, providing enough light to keep the plants healthy and growing. The cellar was cool enough, a major requirement of cymbidiums (about 50°F at night to about 65°F during the day). Lastly, a small fan provided air circulation.

My plants thrived; I kept them in a fairly

sunny spot outdoors when danger of frost was past. I continued the yearly cycle: bringing them in about mid-October, keeping them in the cellar growing area until ready to flower, and then putting them in the den for their two-month display.

## phase II

The second part of my cymbidium story starts with a move to a house with a greenhouse attached. About this time I began to work part-time at William H. Starke Orchids in Jarrettsville. There, I saw, for the first time, cymbidiums grown on a grand scale for commercial purposes. I was amazed to see the orchids' variation in color, texture or substance, form and blooming time. I bought so many cymbidiums from Starke that my paycheck barely covered the plant purchases.

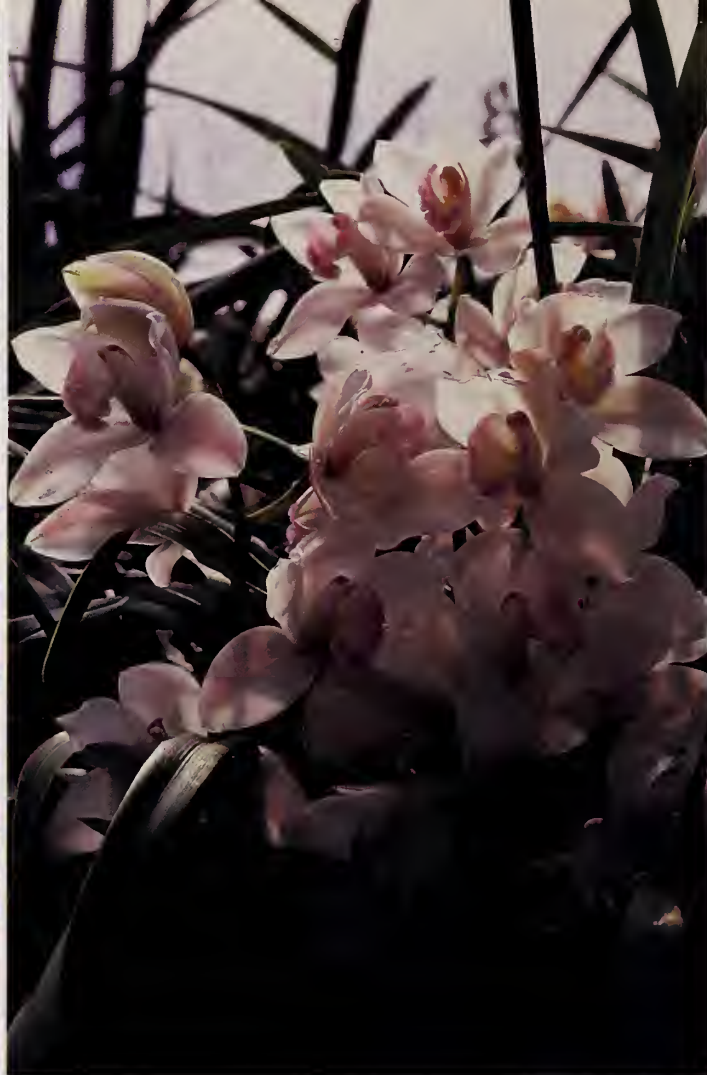
Things really took off. I now had a cymbidium with weeping as well as upright form and early, mid-season and late blooms as well as a whole host of new colors to enjoy. Let me describe a few that are special. Politics aside, my all-time favorite is 'Pat Nixon,' a late bloomer with golden yellow flowers and a heavy spiker. Another

*continued*





Cymbidium 'San Francisco.'



Cymbidium 'Naomi Starke' x 'Bridesmaid,' my best pink cymbidium.

28

yellow favorite is 'Papa Sam,' earlier than 'Pat Nixon' and with a hint of red at the throat. My best pink, with white highlights, is 'Naomi Starke' x 'Bridesmaid,' an Award of Merit winner. Lastly, a green and red called 'Eileen Hinckson,' very rich colors but a bit of a shy bloomer.

I was surprised to find that the greenhouse has not changed by results or added all that much to my success. Maybe a few more spikes and probably earlier bloom because of the sun and heat during the day, but nothing more. I think the reason is that the cymbidiums set their spikes in the autumn. So, if you keep them in bright sunlight all summer, and keep them well watered and fertilized and follow other recommended cultural practices (repotting when necessary being most important), your success is fairly assured. During summer I keep my plants in a lightly wooded area. Here they receive about seven hours of sun, but a high tree canopy filters some of the light. While cymbidiums like sun, full intense summer sun will scorch their leaves. They also like water. All orchids are potted in a fairly loose medium consisting largely of fir bark. That means the water drains rapidly. If it does

not drain rapidly, your mixture has decomposed and you should repot. You should check your plants twice a week in the summer; if they seem dry when you stick your finger down into the potting mixture, water thoroughly, until the water runs out of the drainage holes. Speaking of potting mixture, Starke used a complicated affair with at least eight ingredients (bark, sand, uric acid, fertilizer, lime, peat moss, etc.). This is a bit much for me to reproduce. Since Starke's has now closed, I buy my mix from Dale Davis of Stony Hill Gardens in northern New Jersey. This is also a good source for cymbidium plants and other orchids (address and phone given below). Dale recommends fertilizing the orchids every other week with a half-strength solution of water-soluble plant food. (Peter's 20-20-20 is a good bet.) The one remaining indispensable requirement is the cool night temperatures. My greenhouse temperature sometimes drops as low as 40°F at night. They love it. I recommend cymbidiums to anyone who loves flowers and who can provide for their simple but specific requirements. They have many excellent qualities: a tremendous variation from tiny miniature species to very large

plants. Flowers are delicate or large and heavy textured. You may grow species or highly bred cultivars. Growth habit: gracefully arching or erect. Almost all colors and combinations of colors are available except blue. The biggest plus for me, however, is the blooming time. In January, February and March when the garden outside is so cold and seemingly lifeless, my cymbidiums offer the fresh almost crystalline colors of spring.

#### Source For Mix

Stony Hill Gardens  
Rt. 24  
Chester, NJ 07939  
(201) 879-2696

Andrew Ducsik is manager of landscape maintenance for Laurel Hill Gardens in Chestnut Hill. During free time he enjoys developing and refining his own Chestnut Hill garden, reading and writing about gardening and visiting gardens here and in England.



# The Sea Squill:

## *A Versatile Rarity in the Northeast*



By James Wiegand

Sea-onion, *Urginea maritima* flowering in September out of doors in southern California (at the Los Angeles State and County Arboretum). This striking Mediterranean lily-relative blooms before its leaves are produced from a large (to 6" diameter) red-skinned, onion-like bulb. Covered at top with starry white blooms, the flower stalks may grow to 4 feet tall, often with dramatic twists. Longwood Gardens is conducting trials in its Research Division greenhouses with the aim of introducing the sea-onion to conservatory flower displays. Although sea-onion survives occasional winter temperatures as low as 28°F in California, it is generally not winter cold-hardy in the Delaware Valley, where it is best grown as a pot subject in a sunny window.

photo by Rick Darke

Squill in hanging basket (left) where it shows off its foliage to the fullest extent. The offsets are produced continually from the mature bulb. (Right) Potted squill at Longwood Gardens.

photo by James Wiegand



photo by Rick Darke





About eight years ago a friend gave my wife and I a tiny green bulb about 3/4 of an inch long, pointed at one end and flattened on the other. It was as hard as a pebble and resembled a giant seed. Our friend called it the onion plant and said to plant it flat side down. "You'll be surprised." We planted it in a four-inch pot of cactus/succulent soil, 1/2 sand and 1/2 compost, and watered it sparingly.

We thought the onion plant was a succulent and watered only when dry. It grew slowly, sending out one or two leaves in the winter, and becoming dormant in the summer. Though it seemed to like the western exposure on our sunporch, the onion plant never grew with any vigor. Without knowing the botanical plant name, I could not improve on the situation. I could not identify the plant from the gardening books that I had at that time.

As the plant increased in size, it shed its outer skin and developed curious bumps under its green skin. These lumps grew larger over a season, taking on the characteristic shape of the original bulbil that started the onion plant. The next layer of skin sloughed off, revealing five little copies of the parent bulb.

I plucked the tiny bulbs from the parent plant and potted them up, but they would not grow in the same arid medium the parent plant grew in. They languished for a year before withering away.

In its fifth year, I transplanted the onion plant into a six-inch pot and began to water it more regularly. That spring it sprouted three luxuriant leaves, growing more in three months than in all the previous years. The plant also appreciated a move to the southern side of the porch. Was this mysterious bulb more of a tropical than a desert plant?

That October, the onion plant surprised me by sending up a spathe that went up and curled slightly in a spiral fashion. Pencil thick, lime green, the flower stem grew to two feet long before developing a flower cluster. Pointed, laterally striped bracts sheltered the emerging florets, giving the flower head the furry appearance of a foxtail. The spathe kept lengthening, reaching three feet before the first flower opened.

## the first flowers

Creamy white, striped with yellow-green, the 1/4-inch flowers held their anthers out stiffly over five petals. They opened one row at a time and stayed open until they withered, or, more infrequently, set seed. All the while, the spathe continued to lengthen, spreading out the opening flowers over the stem. The flower stem was fragile despite the fact that it was woody, and one

day I found it snapped off on the floor of the porch.

The flowers enabled me to properly identify the onion plant in *Taylor's Guide to Bulbs\**: *Urginea maritima*, also known as sea squill.\*\* *Urginea maritima* is a tender, true bulb in the lily family from the Mediterranean coast that grows from sea level to 3,000 feet elevation in a wide range of habitat. Sea squill comes in two basic varieties, the red flowered and the white flowered. Both get quite large, with bulbs growing to over four pounds and eight inches in diameter.

Though not hardy, the sea squill enjoys a sunny spot in the garden as a vacation from winters indoors. I have found the best compromise in culture is to move the squill outdoors as soon as the weather is mild in mid-spring, and move the pots indoors in September. This gives the bulbs plenty of stored food to produce strong flowers in the fall and winter. If the squill does not get enough sun, it tends to produce thin leaves and develops a markedly weak "neck." In California, the sea onion is grown outdoors, and produces sturdy, tall spikes of flowers that curl and twist in an amusing fashion.

Easy to care for, the sea onion needs only a western or (preferably) southern exposure, freely draining potting soil, and bulb fertilizer (high in phosphorous and potassium) in the spring and autumn. Free from diseases and pests, the bulb is equally tolerant of neglect and dry conditions. It is convenient that the bulb goes dormant over summer, when keeping the plant moist is most difficult. While tolerant of temperatures down to 28°F, sea squill must be brought indoors to winter over and flower in our area.

Sea squill can flower from October to July if the plant is well-watered and has plenty of sunlight to develop a robust flower stem. Older plants may send up a second flower while the first is still in bloom, providing a succession of tiny blossoms.

Ideally, the sea squill should be a hanging plant, to show off its shiny leaves to their best effect. I was not satisfied growing the sea squill in a pot on a bench, for the leaves were always getting crushed when I moved the pot around. It is convenient, however, to plant the bulbils in a flat, since the young plants have not yet developed the characteristic straplike leaves. And when your "babies" graduate to larger pots, it is hard to find room for them all.

\* *Taylor's Guide to Bulbs* (Based on *Taylor's Encyclopedia of Gardening*), Houghton Mifflin Co., Boston, MA. 1961

\*\* Sea squill or *Urginea maritima* is not to be confused with *Scilla*, or true squill, with which it was formerly classified.

## propagation

Propagating the sea squill is easy and almost obligatory. If you don't pull the offsets from the parent plant when they mature and darken, they sprout on their own, sending proto-roots down into the main bulb. To start the bulbils growing on their own, all that is required is a little well-drained potting mix kept reasonably moist. Soon there will be more "babies" than you know what to do with, but that is part of the plant's charm. Left to itself, squill will form a colony in its pot, covering the surface with bulbs of all sizes and consuming the soil in a mass of thick white roots.

For all her unusual beauty the sea squill is protected by a poison strong enough to kill rats. A medicinal plant, it once provided the drug syrup of squill. Syrup of squill, now obsolete as a drug, and not recognized by the *U.S. Pharmacopoeia*, has a digitalis-like effect on the heart, caused by the glucoside complex, Scillaren. Never let the enticing leaves dangle within reach of children or pets.

Don't let that cool you towards the sea onion, however; its quirky habit provides an invaluable accent in many spots. Draped from a hanging basket, the sea squill is safely out of everyone's way. Equally it would be delightful showcased in a bright alcove, on a high plant shelf, or standing in humorous contrast among flowering amaryllis in the greenhouse. Certainly squill's flowers are not glamorous; they are neither large nor colorful. Rather, its appeal is that it seems to defy the seasons by sending out long flower stems as the days grow shorter, and maintaining this bizarre effort while the outside plant world is fast asleep.

To sum up the sea squill: it's a neglected plant whose virtues as a potted plant can enhance those situations where something different is called for.

## Sources

The author notes that while the sea onion is grown as an outdoor specimen in California, he has been unable to find any mail-order or local sources for the plant. Any suggestions?


A third-year electrical engineering student at Temple University, James Wiegand devotes himself in his spare time to growing wild cane fruits, fig trees and a few vegetables at his home in the Olney section of Philadelphia. His sunporch is winter home to a forest of house plants, from eucalyptus to tangerine and grapefruit trees.



# Museum's Heirloom Project Yields a Harvest of History



By Mary Blakinger



**M**ostoller Wild Goose Beans. Deacon Dan Beets. Huberschmidt Ground Cherries. Amish Paste Tomatoes and Mammoth German Golds.

For generations, Pennsylvania farm families have nurtured these crops in tidy gardens, using seeds handed down through the decades along with the family Bible. The seeds, in addition to sustenance, provided a link to the past. But it's a link in danger of disappearing as modern hybrids replace historic varieties, says Steve Miller of the Landis Valley Museum near Lancaster.

To make sure these treasures survive, Miller and a corps of volunteers have spent five years nurturing a seed collection of traditional strains of historic non-hybrid varieties grown by Pennsylvania Germans.

The Landis Valley Heirloom Seed Project has preserved some 205 varieties, about 40 of them so successfully that they are again available to the public in the museum's 1991 Heirloom Seed Catalog. Miller says the 1990 21-page catalog, generously larded with gardening tips and historical tidbits, went out to 2,800 gardeners in 34 states and six countries.

The lore surrounding some of the seeds

is as captivating as the plants. Take the Mostoller Wild Goose Bean, available to gardeners last spring in limited quantities.

It seems one John Mostoller shot a Canada goose in Somerset County in 1864, and there in the bird's craw was a bean seed. The bean, which may have been cultivated by Indians to the north, has been growing in Mostoller family gardens ever since. For the heirloom project this dry pole bean, which can be used as a snap bean when picked young, was a special find. "If it hadn't been for the Mostoller family, it might have slipped away," says museum gardener Nancy Long.

Pole beans like the Mostoller Wild Goose Bean need trellises or teepees upon which to climb, but don't let that discourage you. Pole beans have the advantage of saving space as they grow upward, leaving room for an early lettuce crop below.

The catalog has a refreshingly down-to-earth tone when it comes to advice. The herb sweet cicely is temperamental when it comes to germination, requiring a process of freezing and thawing, advises the booklet. The plant "often does better when you throw the seeds in the garden and don't fuss," it says.

*continued*

**Nancy Long surveys the summer's abundance in the federal-period kitchen garden.**

**photo by Mary Blakinger**





### **rural heritage: a green trust for the future**

Miller, directing the seed project, creates and implements exhibits at the state museum devoted to the rural heritage of Pennsylvania Germans. The museum features historic gardens and orchards along with its historic buildings and exhibits.

The project has moved steadily forward thanks to the energy of volunteers like Nancy Long, whose full-time commitment evolved into a part-time job with the museum in July. "It's a completely grassroots operation," she says. "We hand fill the orders. We hand stamp the seed packets. We try to answer questions when we can."

Like other seed-saving programs nationwide, the Landis Valley work helps protect the genetic diversity of the past in a green trust for the future. And like the museum's collections of red-ware pottery and farm tools, the seed collection tells something about how farm families lived in the 18th and 19th centuries. Guiding the project is a sense that today's hybrid plants are as inappropriate in historic gardens as a toaster in a Colonial kitchen.

"Visitors began to ask, 'Well, what about the corn? Is the corn today like the corn the settlers grew?' " says Miller. "We needed to show that some plants from Pennsylvania's past differed from today's plants."

Unlike other museum collections, the heirloom seed collection is a dynamic one. It has to be planted, watered, weeded, nurtured. That's how the project catalog, offering seed in modest quantities for vegetables, herbs and ornamentals, came to life.

Like most gardeners, those at the museum must contend with hungry rabbits and groundhogs and bugs. Planting seeds in one area heightened the risk of loss. "We needed to have several places. So why not have dozens, or hundreds, of places? The

idea generated to the point where we believed we could support a catalog offering seed to the public," says Miller.

For inclusion in the project, seeds must have been grown by Pennsylvania Germans before 1940 and have an oral or written history reaching into the early 1800s. Area farm families, many Amish or Mennonite, have been the best source of seeds, says Miller. The museum also has located heirloom varieties through other seed-saving organizations such as the non-profit Seed Savers Exchange based in Iowa.

"Usually when we got seeds, we were given 10 or 15," says Miller. "So it took us two to four years to get enough to offer them through the catalog. During that period we were able to do field trials and find out if, as in the description of the Deacon Dan Beet, it really did stay tender when it got big as a softball, and if it was golden at the core as the donor described it. . . and was it really sweet by most people's taste?"

"Through several years, we learned about the seeds we had, their possibilities and qualities."

The museum's stated purpose is to find open-pollinated vegetables, herbs, ornamentals, fiber plants, grains and fruit-tree scion wood meeting the historical criteria. Project gardeners maintain the genetic integrity of the heirlooms using safe-distance and hand-pollination techniques.

### **they taste good**

Why do home gardeners like these heirlooms? The main reason, says Miller, is that they taste good. Generations of cultivation have adapted them to the soils of Southeastern Pennsylvania, and you can save the seeds, to boot.

But don't get carried away. "One of the cautions we hope to impart to gardeners is, don't switch to all heirloom varieties," Miller says.

"They may not be disease resistant. They may not grow well in every microclimate. They may not grow well in every soil."

Tomato seeds have been the most popular catalog offering, says Miller. The catalog describes the heirloom tomatoes as indeterminate, growing long vines and setting fruit until frost. "You've got to stake them," emphasizes Nancy Long. "Great big stakes, or great big cages."

The Red Brandywine Tomato has been "a knockout," says Miller. "We're all amazed at the production, the quality of the fruit, the taste, the appearance, its keeping value. It seems to have the best of both worlds: All the attributes of a good market tomato and a good home tomato as far as taste is concerned."

### **a sampler**

Here is a sampler of other heirlooms from the Landis Valley project:

★ **The Amish Paste Tomato.** "I gave it to friends . . . and they won't grow any other tomato because production is so high," says Miller. This variety thrives in most garden soils, he adds, and has been nicknamed "Bad Boy" because of its ranging vines. The catalog describes it as producing large, heart-shaped fruit, excellent for sauce.

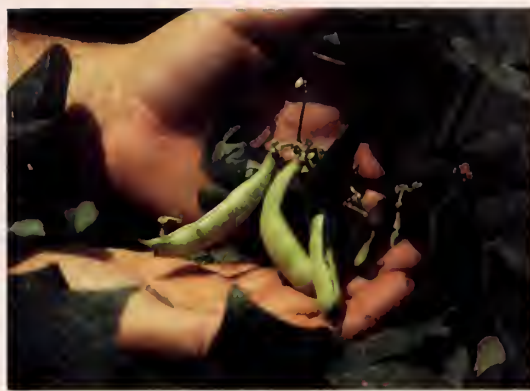
★ **Mammoth German Gold Tomatoes.** Compared to a sleek contemporary tomato, the gold's lobes make it look as old-fashioned as Grandma's Victorian rocker. "It's a red tomato, but it gets a yellow blush," says Miller.

★ **Huberschmidt Ground Cherries.** Ground cherries, used in pies and preserves, are well known in the Amish and Mennonite communities but are something of a mystery

*continued*



***Don't switch to all heirloom varieties," Miller says. "They may not be disease resistant. They may not grow well in every microclimate. They may not grow well in every soil."***



The catalog describes the Fisher Bean, available in limited quantities, as an attractive dry bean.

elsewhere. "We have a variety that's just unbelievable," says Miller. "Amish come through and they say, 'Is that a ground cherry? We never saw one so big.'" The Museum's 1990 offering of ground-cherry seeds was a sellout.

★ **Hoffer Lazy Wife Beans.** "The Lazy Wife is something we're pretty proud of. People had been writing the Museum for years trying to find that," says Miller. It's easy to grow, hence the name. "It's prolific. The flavor is super. When you keep the seeds, the germination rates are high."

★ **Deacon Dan Beets.** "It is true it does not get tough as it gets large. It harvests red, cooks gold and as it cools, it turns burgundy again. So it has really neat color qualities," says Miller, clearly a Deacon Dan convert.

The only problem is that this biennial has not been available in the catalog due to a crop failure. Much of the project's first-year crop was dug out and placed in a straw-lined trench in accordance with traditional winter-storage practices, Miller says. The plan was to replant the beets in the spring for seed.

"When we dug in the spring, they were all mushy. We had to start all over." But he has high hopes for this year's crop.

"If we do our job well, we're a dinosaur," Miller says, reflecting on the project. "We'll have located these varieties, tested them, recorded their oral history." The plants will be thriving in home gardens, their seeds—and their legacy—safe in the hands of enthusiasts who will gather them year to year.

### Seed Catalog, Seed Savers Exchange and Museum Information

If you want to give heirloom gardening a try, you'll need seeds. For a 1991 Heirloom Seed Catalog (available in January) from Landis Valley Museum, send \$2 (checks payable to Landis Valley Associates) to the Heirloom Seed Project, Landis Valley Museum, 2451 Kissel Hill Road, Lancaster, PA 17601.

You might also want to visit the museum gardens, best seen from May to October. The Colonial four-square garden and federal-period kitchen garden show the progression of design, notes Nancy Long. There's also a field-crop area, orchards and tavern garden.

The museum is located 2.5 miles northeast of the city of Lancaster off Rt. 272/Oregon Pike. Call the museum at (717) 569-0401 for details on hours, entrance fees and special events.

Another source of information is the nationwide Seed Savers Exchange started in 1975. Send a full-sized, self-addressed and stamped envelope with your request for this organization's brochure to Seed Savers Exchange, Rural Route 3, Box 239, Decorah, Iowa 52101.

*The Heirloom Gardener* by Carolyn Jabs (Sierra Club Books, 1984) is another excellent resource. In addition to an in-depth discussion of heirloom gardening, it provides a lengthy listing of additional sources of seeds and information.



Steve Miller inspects the Deacon Dan beets midsummer.

Mary Blakinger writes on environmental topics. She lives in Bryn Mawr, Pa.



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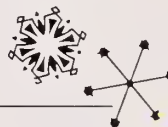
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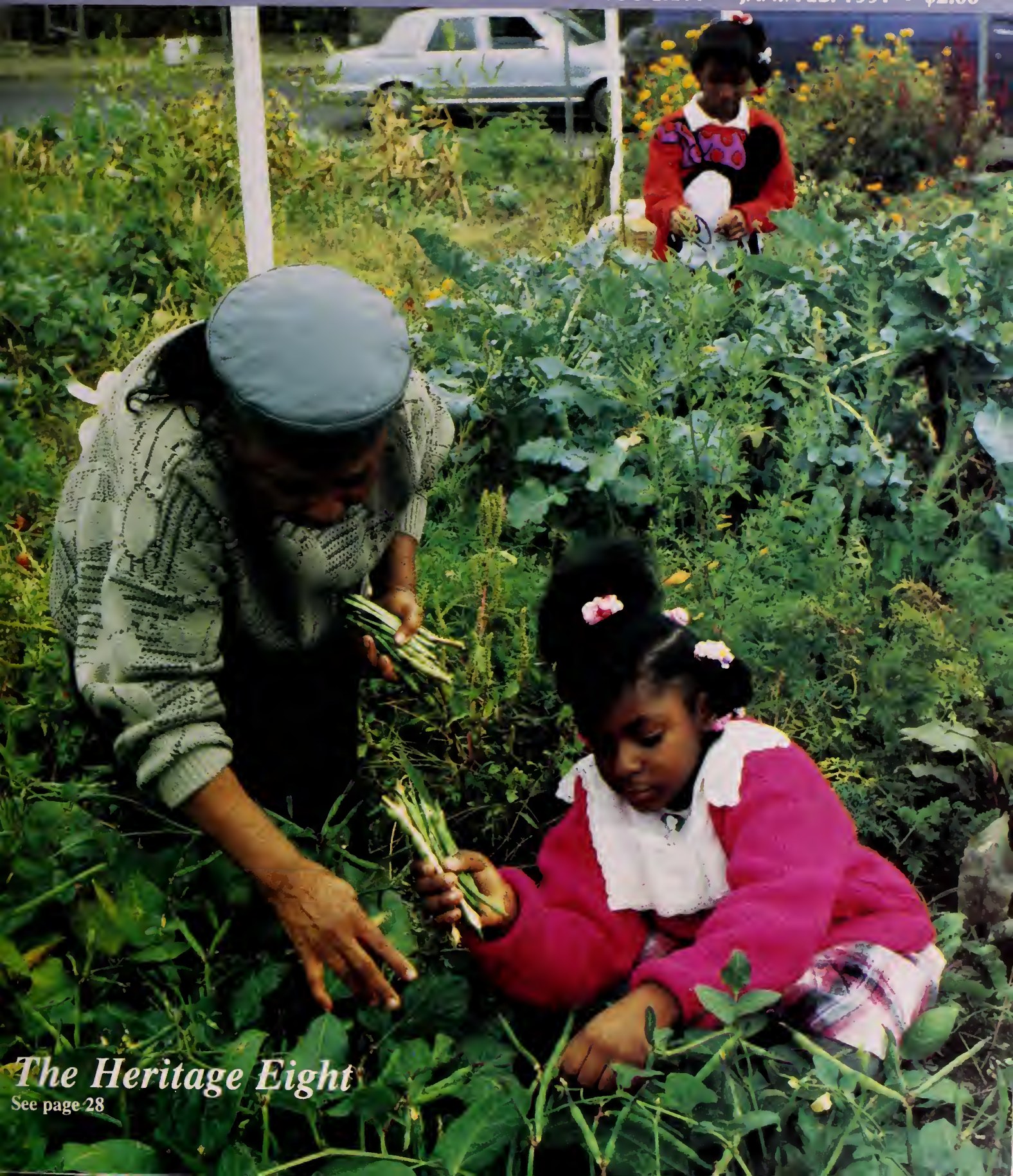


Gathered grasses (left to right):  
*Agrostis* sp.; velvet grass  
(*Holcus lanatus*); timothy,  
(*Phleum pratense*); reed canary  
grass, (*Phalaris arundinacea*);  
*Agropyron* sp.; brome grass,  
(*Bromus* sp.); on the bottom,  
*Carex crinita*; a sedge,  
(*C. bullata*); button sedge and  
bulrush, (*Typha* sp.)  
See page 4.



# GREEN SCENE

THE MAGAZINE OF THE PENNSYLVANIA HORTICULTURAL SOCIETY • JAN./FEB. 1991 • \$2.00



*The Heritage Eight*

See page 28





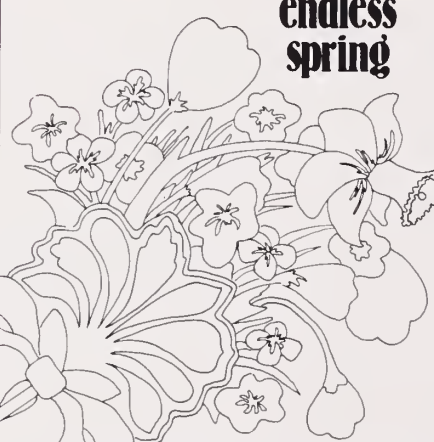
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1991 philadelphia  
**FLOWER SHOW**

**endless  
spring**



**Philadelphia Civic Center**  
March 10-17, 1991

**Front cover:**

Rosa Lee Taylor, one of the Heritage Eight committed to passing on garden lore to young people in the community, works with her granddaughters at Green Acres at 18th and Glenwood. See page 28.

Front cover: photo by David Graham  
Back cover: photo by Larry Albee



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Volume 19, Number 3 January/February 1991

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*Green Scene* welcomes Phipps Friends as a new subscriber.

*the green scene / january 1991*



# WHAT'S IN A NAME:

## *About Coreopsis 'Moonbeam' and Gold Medals*

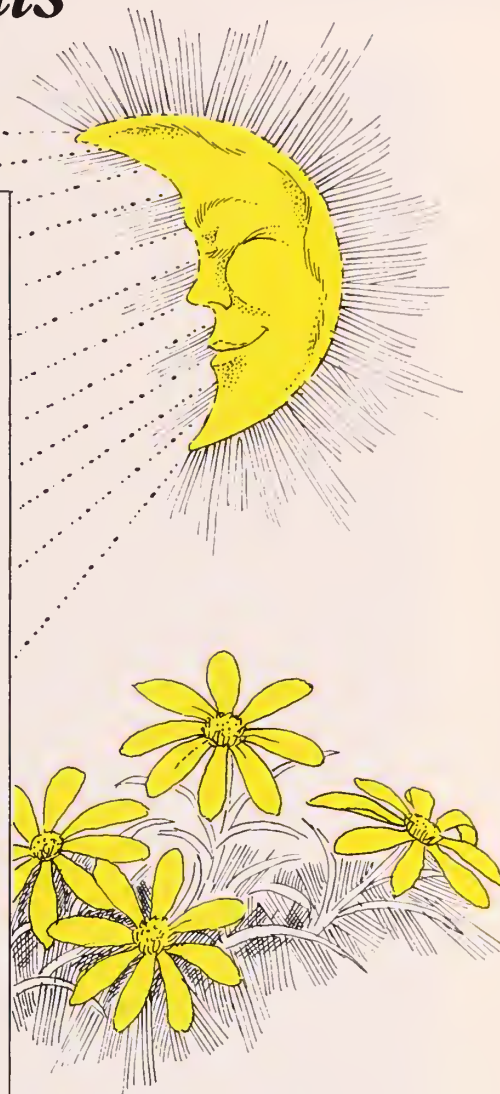
illustration by Julie Baxendell

As I began to read Claire Sawyers's piece about *Coreopsis* in the July issue of *Horticulture*, my heart sank a little. I knew Lee Bell was working on a story for *Green Scene* about her role in the naming of C. 'Moonbeam.' Have we been scooped, I wondered. I cheered up considerably when I read that Claire dated the first known exchange among gardeners back 15 years ago, noting that garden writer Fred McGourty suspects it was discovered by the late Edward Alexander, a taxonomist at the New York Botanic Garden, who had a strong interest in native plants. The October issue of *Horticulture* carried a letter to the editor from Ella May T. Wulff of Connecticut who dates knowledge of the unnamed *Coreopsis* 'Moonbeam' back to the 1950s. Well, you read it here first, how the plant came to be named in collaboration with none other than Lee Bell, that indefatigable plant detective who has been relentlessly seeking old roses in cemeteries for at least 45 years. See her story on page 13.

Lee Bell mentions in her article that Rick Darke, curator of plants at Longwood Gardens, is working on a paper with Art Tucker of Dover State College, about *Coreopsis* 'Zagreb' and 'Golden Showers.'

You may remember we used two of Rick's photos of sea squill or sea onion (*Urginea maritima*) for James Wiegand's article on sea squill. See Rick's letter correcting the name of the plant. Wiegand was actually writing about false sea onion, not sea squill.

One final point about names: don't miss an important name change — the Pennsylvania Horticultural Society's Gold Medal Award was formerly the PHS Styer Award. The Gold Medal Award story appears on page 4.







# THE GOLD MEDAL AWARD PROGRAM



By Judy Zuk

photos by Larry Albee



4

For the past three years the January issue of *Green Scene* has brought news of woody ornamental plants recognized as winners through the Pennsylvania Horticultural Society's Styer Award of Garden Merit. This year we present to you six new Award winners as well as a new name for our program.

The Award has carried nurseryman J. Franklin Styer's name since its inception, when his vision and financial support encouraged the Society to start a program to identify and promote neglected and underused woody ornamental plants of exceptional garden merit. Since the mid-70s a group of evaluators, the Styer Award Committee, has met annually to evaluate entries. Since 1988 the Society has recognized 18 fine garden plants with Awards.



## *Hamamelis x intermedia* 'Diane'



Above and at left, *Hamamelis x intermedia* 'Diane' photographed at Longwood Gardens in February.

Starting this year, these plants will be recognized as Gold Medal Award winners. The committee believes the change will help those not familiar with the program to grasp the Award's intent and understand the value of these Award-winning woody plants.

The 1991 Gold Medal Award winners include a hibiscus with pristine white flowers; a hamamelis with exceptional red flowers; sciadopitys, a long-neglected evergreen known for its exquisite habit and foliage; winterberry, a deciduous holly with exceptional long-lasting berries; and two viburnums, one with creamy white flowers on horizontal branches, the other with glorious pink to blue berries and rich purple autumn foliage.

Following the Gold Medal Award plants for 1991, you'll find information on sources. We hope you will be encouraged to add one or several of these plants to your garden and recommend them to friends.

### *Hamamelis x intermedia* 'Diane'

Asiatic witch hazels bring color and sparkle to the winter landscape when they produce their yellow to red spidery flowers to herald the new year. In 1989 the Award recognized the merits of the yellow-flowered *Hamamelis mollis* 'Pallida.' This year we add *H x intermedia* 'Diane' to our list of awardees, to offer a strong red to the gardener's winter palette.

Steve Hutton, president of Conard-Pyle Company, believes 'Diane' is clearly the best red witch hazel in the trade, in addition to being the earliest red blooming plant in the Delaware Valley. The flowers are the largest and deepest colored of the red witch hazels, and on warm winter days they can unfurl as early as January, with their peak show in February and March.

Try siting this plant where it captures the winter sun and underplant it with snowdrops (*Galanthus*) or winter aconite (*Eranthis*) for a two-tiered effect. Although

winter bloom is the main event, 'Diane' also has several seasons of notable interest. Phil Normandy of Brookside Gardens reports that 'Diane' can rival the sugar maples in fall color.

As with all witch hazels 'Diane' must be propagated by grafting, so you may have to persist to find it in nurseries. It is ultimately a large vase-shaped shrub, growing to 15 feet in full sun to part shade.

A hybrid between *H. mollis* and *H. japonica*, 'Diane' was selected at the Kalmthout Arboretum in Belgium by the de Belders, who have specialized in exceptional witch hazels. 'Diane' received an Award of Merit from the Royal Horticultural Society in 1969, and having proven itself worthy in the Delaware Valley, we can add the Gold Medal Award to its list of accolades. (Hardy Zone 6 to 8.)

*continued*





## *Hibiscus syriacus* 'Diana'

photos by Larry Albee



*H. syriacus* 'Diana' blooms in August.

6

### *Hibiscus syriacus* 'Diana'

In the dog days of summer, from August to September, there can be a real lull in the garden. To fill that flowering gap Darrel Apps of Garden Adventures in Chadds Ford (Pa.) recommends *Hibiscus syriacus* 'Diana,' a shrub that blooms from July until frost.

Unlike the old-fashioned rose-of-sharon with its small, pinky-purple flowers, 'Diana' produces large, elegant, pure white flowers that gleam in the summer sun. Since the flowers stay open for more than a day, an added bonus is their effect in the moonlight. And, unlike its relatives, 'Diana' sets no visible seed so it will not become a weed in the garden.

'Diana' is a tough plant that grows well in a variety of garden situations. At Chanticleer in Wayne, it thrives in the rich soil of a formal garden among roses and tree peonies. At the Scott Arboretum at Swarthmore College a favorite planting of



'Diana' is a 4-foot hedge planted at the edge of a parking lot in lean, dry soil. And, 'Diana' has been spotted thriving in city gardens in Brooklyn, New York.

This plant's adaptability makes it a good

candidate for most sunny gardens. Left unpruned 'Diana' will grow to an 8-foot-tall open shrub, nicely filling a niche in the back of a perennial border. For those who love to use their pruning shears in the spring, 'Diana' can be cut back to a height of 2 feet, and the pristine white flowers will be produced on shorter (4 foot), bushier plants.

This variety was introduced in 1963 by Dr. Donald Egolf of the U.S. National Arboretum following years of hybridization and selection. Propagated easily by softwood or hardwood cuttings it is a nurseryman's dream. In some gardens Japanese beetles significantly damage this shrub's flowers; however 'Diana' perseveres and keeps on producing flowers long after the last beetle has retired for the season. (Hardy — Zone 6 to 8.)



## *Ilex* x 'Harvest Red'

photos by Larry Albee



*Ilex* 'Harvest Red' in October.

### *Ilex* x 'Harvest Red'

In 1988 the Award Committee extolled the virtues of deciduous hollies by recognizing *Ilex* x 'Sparkleberry.' This year we continue our promotion of this great group of plants by recommending *I.* x 'Harvest Red,' an introduction by the great holly breeder Dr. Elwin Orton, of Rutgers University.

'Harvest Red' is a hybrid between our native *I. verticillata* and the Asian species *I. serrata*. It combines the best traits of both parents: small but abundant Christmas-red fruits borne on a finely textured, well-shaped shrub. The fruits begin to show color in fall before the leaves turn wine colored and drop. For many months the bright red berries put on a magnificent show, being best appreciated right after a snowfall.

As a group, deciduous hollies are best propagated by softwood cuttings in June or July. They grow well in sun to part shade,



and since they tolerate heavy wet soils they are beautiful subjects for waterside plantings.

Like all hollies it is necessary to have a male pollinator nearby to ensure good fruiting. Tom Dilatush of Dilatush Nur-

series in Robbinsville, New Jersey, recommends seeking out *I.* x 'Raritan Chief,' a male clone also introduced by Rutgers. One plant located within sightline of a group of the female 'Harvest Red' is sufficient to do the job. (Hardy — Zone 3 to 9.)



## *Sciadopitys verticillata*

photos by Larry Albee



*Sciadopitys verticillata* in June.

8



Photographed in May at Longwood Gardens.

### *Sciadopitys verticillata*

Bill Heyser of Heyser Landscaping welcomes the Japanese umbrella pine to the meager palette of evergreens used on commercial sites. For many the Japanese umbrella pine represents the Rolls Royce of needled evergreen, for no other conifer offers such lush, dark green foliage, its long thick needles borne in lustrous whorls, on a handsome, dense tree.

A slow grower, this native Japanese plant is commonly seen in middle age as a 20- to 30-foot-tall and 15-foot wide pyramidal tree. Ultimately it can reach a height of 60 feet or more, as exhibited in the fine old specimen by the barn at the Tyler Arboretum.

Until recently this plant has been hard to propagate by cutting, so most have been produced from seed, which takes a long time to get a saleable plant. Following years of research Dr. Sidney Waxman, of the University of Connecticut, has devel-

oped a successful technique for rooting Japanese umbrella pine cuttings, which should help this plant's availability.

Propagation difficulties have contributed to the high prices for these plants in nurseries, but if you do fall in love with one on first sight (which most people do), buy it and think of it as an investment. Plant it in rich but well-drained soil in a sunny location. Its compact habit and slow growth rate make it an ideal plant for all but the smallest of landscapes. (Hardy — Zone 5 to 8.)



## *Viburnum plicatum* f. *tomentosum* 'Shasta'



photos by Larry Albee

*Viburnum plicatum* f. *tomentosum* 'Shasta' in May.

### *Viburnum plicatum* f. *tomentosum* 'Shasta'

The doublefile viburnum has long been prized as an elegant spring flowering shrub. It is aptly named, for in May double rows of creamy white flower clusters cover the upper sides of its horizontal branches, like icing on a cake. Native to China and Japan, cultivars of this 10- to 12-foot-tall shrub have been in cultivation in the west for many years. In 1979, the U.S. National Arboretum introduced the new cultivar 'Shasta,' which offers the gardener a lower growing form of this great plant.

'Shasta' was selected by Dr. Donald Egolf for its abundant flower clusters and compact (6-foot-tall by 12-foot-wide) habit. At bloom time, Darrel Apps says 'Shasta' has no equal, with "hardly a bare spot (of flowers) on the entire wide spreading mound." The fruits that follow are best valued as bird food, for although they are showy when they turn red in July, they are quickly devoured.



'Shasta' roots easily from softwood and hardwood cuttings and will frequently flower as a one-year-old cutting. It grows best in average to rich, well-drained soil in sun to part shade. In the landscape it is

valuable as a mass planting, or as a horizontal architectural accent. For a dramatic effect, plant it in a location where you can look down on it in flower to admire its "milky way" display. (Hardy — Zone 5 to 8.)

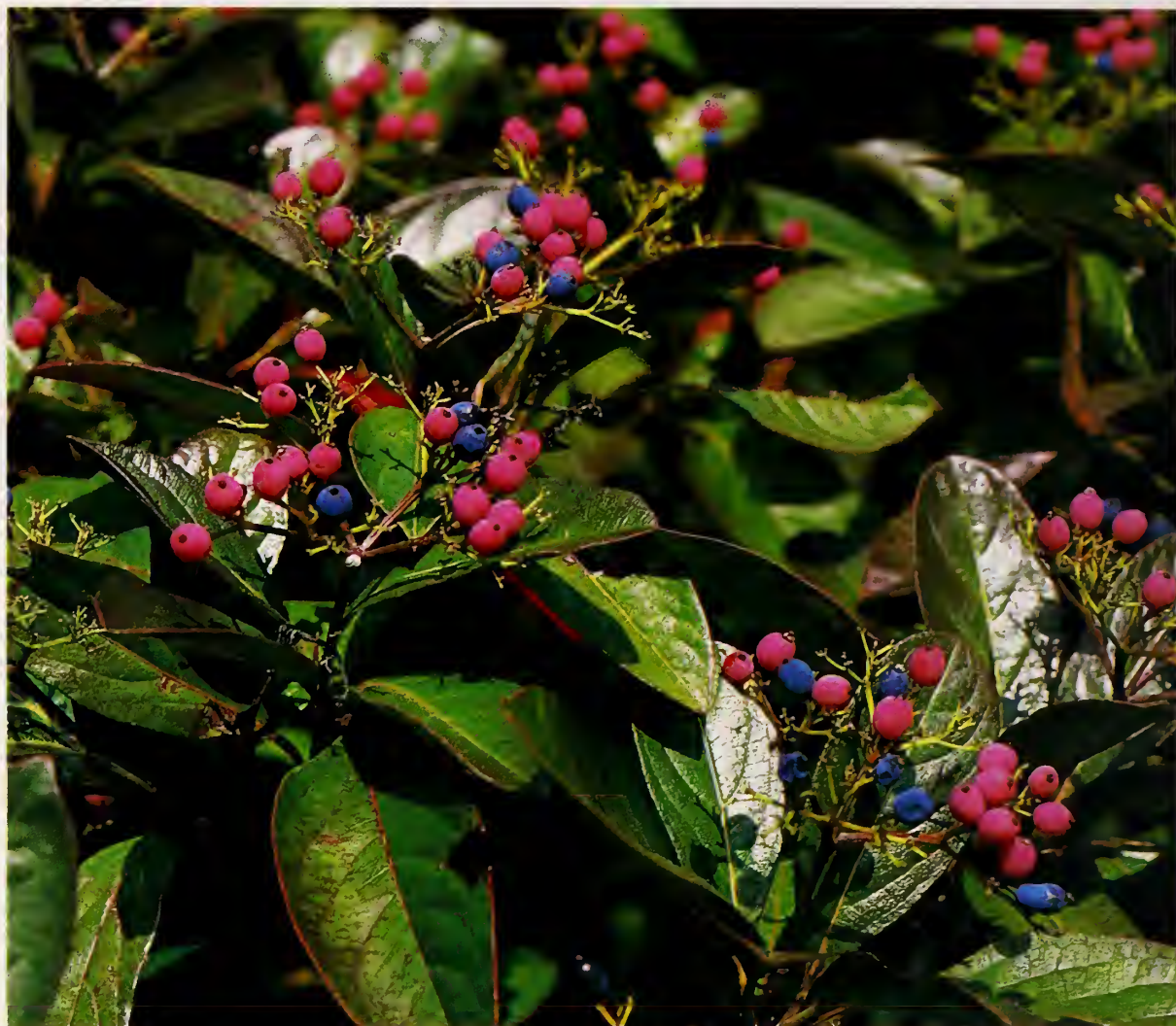
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## *Viburnum nudum* 'Winterthur'

photos by Larry Albee



*Viburnum nudum* 'Winterthur' berries in October at Winterthur Gardens in Delaware.

10

### *Viburnum nudum* 'Winterthur'

"All you have to do to covet *Viburnum nudum* 'Winterthur' is to see it on a crisp autumn morning with its mix of pink and

dusty blue berries set against its rich purple foliage," says Dr. Richard Lighty, director of the Mt. Cuba Center for the Study of Piedmont Flora. High praise from a man

who specializes in scrutinizing native plants for their ornamental value.

This selection of our native possumhaw viburnum is a testimonial to the careful evaluation of the late Hal Bruce, curator of plants at Winterthur. He collected this clone in southern Delaware in 1961, and watched it in the garden for many years. He found 'Winterthur' to be more compact and refined in habit than the species, growing to a height of 6 feet in 20 years. It has all the virtues of the species though, large flat clusters of creamy white flowers in June, lustrous shiny dark green leaves, and a memorable display of fruit and foliage colors in autumn.

'Winterthur' roots from softwood cuttings taken in summer. An adaptable shrub, it grows equally well in wet shaded spots as in sunny well-drained sites. It does benefit from cross pollination, and will set more fruit if another clone of *V. nudum* is growing in the area. (Hardy — Zone 7 to 9.)



In June at William Frederick's garden in Hockessin, Delaware.



Judy Zuk is president of the Brooklyn Botanic Garden in Brooklyn, New York, and a member of the Pennsylvania Horticultural Society's Gold Medal Award committee.



## HOW TO ENTER A PLANT FOR THE PENNSYLVANIA HORTICULTURAL SOCIETY GOLD MEDAL AWARD

We hope you and your gardening friends will let the Pennsylvania Horticultural Society know about plants that merit a Gold Medal Award. Brochures and entry forms can be obtained by calling the Society at (215) 625-8299.

The schedule for the program is as follows:

### **December 1st —**

Deadline for entrants to submit suggestions with entry form and slides (3-5) to the Society.

### **January —**

Evaluators review entries and select plants for further evaluation in the field during upcoming months.

### **Summer —**

Evaluators meet to make final award selections. Winners are announced in *Green Scene* at the beginning of the following year.

When making recommendations for the Gold Medal Award, please remember the following specifications:

- for each entry, a minimum of three landscape-size plants must be accessible to evaluators in a botanical garden, arboretum or nursery located within 150 miles of Philadelphia, in the area extending from Washington, D.C. to New York City.
- a program of propagation and distribution should be underway for all entries to ensure that plants are available so growers, retailers and mail order sources can obtain stock for distribution.

## WHERE TO BUY PENNSYLVANIA HORTICULTURAL SOCIETY GOLD MEDAL AWARD PLANTS

As with all production operations, both wholesale and retail nurseries walk the delicate tightrope between supply and demand. Their situation is further complicated by the long lead-time needed to produce plants large enough to attract demand in the retail nursery.

As part of the Gold Medal Award program, the Society has attempted to make those involved in the production and sale of plants in the areas where *Green Scene* readers live aware of our activities. And we distribute information on the upcoming award winners to the trade.

We hope you will be able to find these plants in your garden centers. If you cannot, a source list is available and can be obtained by sending a stamped, self-addressed business-size envelope to the Pennsylvania Horticultural Society Gold Medal Award, Pennsylvania Horticultural Society, 325 Walnut Street, Philadelphia, PA 19106. Both retail and wholesale sources are included in the list.

## EVALUATORS

Paul Meyer, **Chair**

Darrel Apps

Tom Dilatush

William H. Frederick, Jr.

Richard Hesselein

William Heyser

Steve Hutton

Richard W. Lighty

Philip Normandy

Sally Reath

Bradshaw Snipes

J. Franklin Styer


Charles Zafonte

Judith D. Zuk

## Staff Coordinator

Cheryl Lee Monroe





One clump at peak bloom  
in mid-September in a  
commercial planting on  
Fayette Street in  
Conshohocken.



# COREOPSIS 'MOONBEAM'

## *How it was named*

By Léonie Bell

A recent Wayside Gardens catalog exults: "Truly a treasure . . . we rate this as one of the 10 all time great perennials!" There has been much speculation about the plant's history and name. While the original source remains something of a mystery, I can explain how *Coreopsis* 'Moonbeam' got its name.

Many years ago we had a neighbor here in Spring Mill (outside Conshohocken, Pa.) who was a genuine tinker, a fabricator of tin. Our American term "roofer" hardly touched upon the diverse skills of Howard Chidester. Besides installing copper gutters, he rebuilt our porch and fitted yards of bookshelves and cupboards to the crooked walls of this old stone house. We shared the great songs of the Forties because he'd moonlit in a band, playing clarinet and sax. But best of all, we were both avid gardeners.

One day he brought to work a berry-boxed plant of a small lemon-yellow daisy found at a farmer's stand on the way home from Tom's River, New Jersey. Up until then, around 1960, I'd refused to admit the *Coreopsis* clan to the garden. Their color in June, bright chrome yellow, clashed horribly with the old roses that queen the place, their stems leaned and their roots got into everything. This little thing looked like the Threadleaf species, *C. verticillata*, except for the marvelous cool lemon color.

A month after planting it I thought, this is odd: lots of bloom with plenty of buds coming. Could it really be everblooming? By October we could still find a few pale stars for the small nosegays our girls loved to make.

Over winter I noticed how miniscule dark bronzed rosettes marked its location

after the dry stems had been removed. By spring the tufts had increased a bit, enough to pry up pieces to share with a friend. The moment she saw the sulfur daisies in May she said, "This is the kind I've been looking for. At garden marts you can never tell which you'll get, they're all marked *C. verticillata* because they look the same at first." So it had been around for awhile. My 1950 *Gray's Manual* was no help, no pale variants were described. Perhaps nursery-men could tell me more about it.

### *doesn't sucker*

The first to consult was "Bill," owner of Hildemere Nursery on Route 1 in Wawa, Pa. He had never heard of a lemon *Coreopsis* and when I added that it didn't sucker much, he burst out with, "A *Coreopsis* that doesn't sucker? That'll be the day!" Still, he took the proffered plant. (Years later when I tried to find the Hildemere Nursery directly across from the Wawa Dairy, it seemed to have disappeared into thin air, the gentle slopes once checkered with beds had left not a trace. Small wonder. On top of it now lies the Franklin Mint.)

Another start went up to Barre, Vermont, where Donald Allen had Sky-Cleft Gardens, a notable rock garden nursery, long gone. He had expressed interest in two plants I had, the *Coreopsis*, which was entirely new to him, and a dwarf everblooming form of *Rosa arkansana plena* 'Woodrow.' While the rose refused to root, the *Coreopsis* responded so well to "forced propagation" that he had enough stock to offer in his 1965 catalog. When he asked, "What shall we name it?" I wrote back, "Oh, something with moon in it." And so it was listed:

*continued*

photo by Léonie Bell





*Take a bed of scarlet, magenta and orange, add a dash of 'Moonbeam,' and you'll have a smashing combination.*

was illustrated over 240 years ago by Georg Dionysius Ehret, compeer of Linnaeus, in 1749. Two other cultivars now thought to belong to his hybrid complex are 'Zagreb' and 'Golden Showers,' both with the more usual chrome-yellow daisies and greater height. Art Tucker and Rick Darke, curator of plants at Longwood Gardens, are now working on a paper about these.

I can't think of a tint that harmonizes more agreeably with the most garish flower colors than the sulfurous 'Moonbeam.' In some lights the one-inch daisies have an almost greenish cast. Take a bed of scarlet, magenta and orange, add a dash of 'Moonbeam,' and you'll have a smashing combination. The first buds spread in late May and from then until frost, they never stop. For the garden's benefit if not its own, 'Moonbeam' is probably sterile, which would explain why it keeps on blooming in a futile attempt to produce seed.

At peak bloom in September, a plant is about 18 inches across and usually no more than a foot high, often less, the dark stems and leaves so wiry and fine that the eight-petaled flowers seem to float above a tangled mass. Rebloom will occur whether or not you shear the stems back in July or August. Although a sandy peat soil mix keeps the plant compact, 'Moonbeam' will grow well almost anywhere in full sun or partial shade. Here is one American perennial that owes nothing to the "improvements" made by the English or the Germans.

All we can hope now is that someone in South Carolina or Georgia will come up with the beginning of this story.

●

Lifetime gardener Lee Bell started with wild-flowers, moved on to weeds, and graduated to old roses, finding lost names for old kinds still growing in this country. Bell is the current editor of *Heritage Rose Group's* quarterly *Letter*. Her photographs now augment her superb botanical illustrations made for many years.

*Coreopsis* 'Moonbeam' blends well with nasturtiums and *Salvia farinacea* 'Victoria' in a dooryard garden in Plymouth Meeting.

*Coreopsis* 'Moonbeam,' no species given.

The best way to insure the longevity of a rare plant is to give some away. In the crush of work to complete a book in 1966, I lost the original 'Moonbeam' to some voracious matting perennial, when there was no time to keep track of small defenseless treasures. Knowing Donald Allen had stock, I knew it could be replaced. Yet plants, unlabeled, continued to surface in local nurseries. In April you had to look very close to decide if a potted plant was the ordinary *C. verticillata*, or the more compact, darker-green-leaved lemon-yellow version.

Inevitably, 'Moonbeam' attracted the interest of botanists. Dr. Art Tucker of

Dover State College in Delaware sent material to Dr. Edwin Smith at the University of Arkansas, considered to be the world authority on *Coreopsis*, for his opinion. Smith's opinion is that 'Moonbeam' is not a form of *C. verticillata* at all but one of a hybrid complex known as *C. x delphinifolia*. This is made up of *C. verticillata*, *C. tripteris*, and possibly *C. major*, according to experimental crosses made by Dr. Smith, and occurs in the wild only in South Carolina and Georgia. Whether the original plant or anything like the lemon 'Moonbeam' has been found there is as yet not known.

Incredibly, the type of *C. x delphinifolia*



# The Art of Bonsai Comes of Age in America



By Judy Mathe Foley

photo by Bernard Gastrich



This Western hemlock, *Tsuga heterophylla*, carries the windswept style to its highest form. Created from a collected tree in 1969 by James M. Nakahara of Seattle, Washington.

*Forty years after bonsai's introduction in the United States, the fever has struck. Local bonsai expert Frederic Ballard spearheaded a drive to collect and display North American bonsai plants at the U.S. National Arboretum in Washington, D.C.*

*The good news is that the National Collection of North American Bonsai is for the appreciator as well as the artist.*



---

*The Foundation plans a museum program for "people who have no desire to practice the art of bonsai but seek some understanding of what is involved when others do it."*

---

A Western hemlock bends in perfect symmetry to a wind that seems to have been blowing for centuries. A Japanese black pine displays its formal, lush perfection near a cascading blue cedar, which leans off an invisible cliff toward an invisible sea far below. The 11 junipers of *Goshin*, Protector of the Spirit, reach their grey spikes heavenward through a green mist to create a sense of majesty belying their 4-foot height. And a California juniper, with a semi-circular flourish of sculptural energy, makes its unique stylish statement.

Whether you seek tradition, realism or stark modernism, you will find it among the living art works of the National Collection of North American Bonsai, which last year joined their Japanese and Chinese counterparts to form the National Bonsai and Penjing Museum on the grounds of one of the largest public gardens in the world, the U.S. National Arboretum in Washington, D.C.

In its most basic form, the Collection is 56 trees representing 38 species created by bonsai artists from California and the Pacific Northwest through the Midwest to New England and Florida. Intended to celebrate a generation of the bonsai art and artists working in the United States, and to reflect the diversity of North American bonsai in species, styles, containers, artists and artistic philosophies, all the trees have been in training 10 years or more. Some were initially shaped by an outstanding artist, but most were created, trained, and donated by the same persons — five of whom are from Pennsylvania, Maryland, Connecticut and New York. Their collection and display is a private/public collaborative effort of The National Bonsai Foundation and The U.S. National Arboretum, which is run by the United States Department of Agriculture.

#### **higher aspirations**

But their trainers, donors and collectors have higher aspirations for this forest at



Frederic and Ernesta Ballard's *Cedrus atlantica* 'Glaucua,' familiar to Philadelphia Flower Show visitors, is now part of the North American Bonsai Collection at the U.S. National Arboretum in Washington, D.C. The 60-inch cascade-style bonsai was created from a nursery "whip" in 1960.

your fingertips. They envision "more than a collection of trees lined up like pickles at a county fair," says Frederic Ballard, president of the National Bonsai Foundation, which gathered the trees and raised the money to build the John Y. Naka Pavilion to house them. Rather, Foundation members present bonsai "not simply as a horticultural curiosity, but as a fine art akin to sculpture or painting." Because not everyone who enjoys a Renoir aspires to become an Impressionist, the Foundation plans a museum program for "people who have no desire to practice the art of bonsai but seek some understanding of what is involved when others do it."

One who would create bonsai, who would "represent nature in the palm of your hand," must understand horticulture, be sparked by creative vision, governed by artistic norms, and then develop the prodigious skills necessary to work with an

organic palette of foliage, bark, fruit, flowers, and roots trained over rocks. The evolution and development of trees with the passage of time is part of the fascination. When you ask Fred Ballard, for instance, what happens if he makes a pruning mistake, he says, "God will repair it."

Bonsai, to a greater extent than other horticultural endeavors, is an interplay between each plant's growing patterns and the technical skills of the human caretaker: pruning leaves and roots to attain a sustainable life through a delicate balance of photosynthesis and evaporation, wiring branches not only to display the plant to its best advantage, but to create space to invite the viewer's eyes in. "Given so many variables, the range of artistic choice is wide," says Ballard. "The result may be one tree resembling the full size natural specimen in nature; the other a stylized



**When you ask Fred Ballard, for instance, what happens if he makes a pruning mistake, he says, "God will repair it."**

product recognizable as one of the conventional bonsai patterns that have been developed through centuries of Japanese bonsai practice."

As the North American collection reveals, bonsai is participatory for viewer as well as bonsaiist. The viewer has the pleasure of exploring the shapes and depths of "getting inside" this miniature world. "In common with other Japanese artworks, such as scroll painting and gardens, a good bonsai is not explicit down to the last detail: it is spare, abstract, impressionistic, inviting the observer to meditate, to project himself into the scene, to complete and interpret it in his own mind," writes Ogden Tanner in a *Smithsonian* magazine article on bonsai (October, 1989).

As bonsai lecturer and teacher F. Chase Rosade of Rosade Bonsai Studios, New Hope, Pa., whose European hornbeam, *Carpinus betulus*, is part of the North American Collection, observes, "Most people never really see trees." So studying a bonsai brings the added advantage of increasing people's awareness of the shapes, textures, structure, and beauty of trees that grow all around them.

### appreciating the art

Granted, bonsai requires horticultural skills, but can an art appreciation course enhance viewers' enjoyment? That's the question the Foundation wants to test. Although practicing bonsaiists have access to many how-to books, "little or nothing exists to help the general public appreciate the art." The National Bonsai Foundation aims to fill that void.

For Ballard, a bonsai enthusiast and practitioner since 1958 when his wife Ernesta introduced him to the work of one of the first bonsai masters to teach bonsai to Americans, Yuji Yoshimura, "a bonsai is a combination of what God made of it and what the bonsaiist made of it." If two or three people work on nearly identical, untrained trees, the resulting bonsai will

*continued*



photo by Bernard Gasrich

From California a wild collected juniper, *Juniperus californica*, incorporates driftwood to create the feel of sculpture. Kiichi Wayne Takayasu collected this juniper in the Santa Margarita Mountains in 1967; its name, Kyoku-Ryu, means "dragon of the rising sun."

### What Is Bonsai

No prescriptive definition of a bonsai exists. An artistically shaped woody plant grown in a pot is designated a bonsai by the Japanese and a penjing by the Chinese.

Virtually any species of tree or woody shrub — whether collected in the wild as a grown tree or started from nursery stock — can be grown as a bonsai. Those having small leaves or needles and a short distance between leaf nodes are the most adaptive to the necessary pruning and pinching that produces miniatures. Most bonsai are created from full-size plants, but there are important exceptions. The North American Collection, for example, contains dwarf pine, elm and dwarf juniper. Dwarf bamboos, sedges and horsetails are also fascinating accent plants.

The size of the original tree is sometimes reduced 100-fold. The leaves are smaller than they would be in nature, but flowers and fruit remain the same size. The five conventional patterns, or "styles," associated through centuries of bonsai practice in Japan are formal upright, curved trunk, slanting, cascade and the more abstract, literati.

Intended to be beautiful in themselves and to reflect the beauty of nature, bonsai must please the eye and not be awkward, grotesque or artificial. Some mirror the formal perfection of a specimen tree in a protected spot; others informally reach out from a forest edge or a river bank in search of air and sunlight; some are gnarled and windswept, struggling in a hostile environment; others, known as "literati," verge on the abstract.

Bonsai are not scale models. In even the simplest bonsai, nature has been reworked for artistic effect. A thick trunk is emphasized to create the impression of age. A full crown with many branches suggests maturity. Exposed roots and weathered limbs reflect the adverse forces of nature. The lines and scars of a long life give character to a tree, as to a person.

— Adapted from *The Dedication Catalogue*\* produced by the National Bonsai Foundation and written by Janet F. Lanman and Frederic Ballard.

\*Available at the Pennsylvania Horticultural Society Library.





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Explore the same species displayed in radically different fashions, trained with different eyes. Daniel Robinson of Bremerton, Washington, used the black pine, *Pinus thunbergiana*, grafted on a Ponderosa pine trunk (above). *Shinsei*, Voice of the God, is that same species pine trained by George Yamaguchi of Los Angeles (below). Yamaguchi's pine is the quintessential, traditional Japanese bonsai trained in formal upright style, compact, controlled, lush and dense. In Robinson's tree, the Ponderosa forms an arm that reaches, in slanting style, to offer the black pine as spikey green bouquets.

rarely be the same. Often no two are the same. Proof, for Ballard, that the artist bring his or her own eye and hand to the work.

Explore the same species displayed in radically different fashions — trained with different eyes. *Shinsei*, Voice of the God, is a Japanese black pine (*Pinus thunbergiana*) trained by George Yamaguchi of Los Angeles. Daniel Robinson of Bremerton, Washington, used that same pine, but grafted it on a Ponderosa pine trunk. Yamaguchi's pine is the quintessential, traditional Japanese bonsai trained in formal upright style, compact, controlled, lush and dense. In Robinson's tree, the

Ponderosa forms an arm that reaches, in slanting style, to offer the black pine as spikey, green bouquets.

The first generation of American bonsai-ists introduced this ancient Japanese art of bonsai to the United States 40 years ago and the trees are now mature and ready for display in what Ballard calls "a coming-of-age of bonsai in America."

"We're really celebrating the work of first- and second-generation immigrants — because in this country we're all immigrants — who brought this art here along with other parts of their culture," says Mary Ann Orlando, executive director of the National Bonsai Foundation. "Trees have

no politics, no boundaries; their roots may grow in any soil."

The North American collection provides the first glimpse of how bonsai grew in American soil, beginning in California. Because Americans of Japanese heritage such as John Y. Naka promulgated the art there, the Japanese legacy is strong. "There is no American style yet," Ballard says, but "if I walk you through the exhibit, I can tell you this one is not Chinese and not quite Japanese, although it looks Japanese, and I could show you trees you wouldn't find in Japan."

Doris Froning, of Kennett Square, Pa., whose contribution to the Collection is two of the miniatures — Shohin ("small goods") — in which she specializes, says, "By looking at the trees, you can tell the differences in style. You can see it before your very eyes." But those eyes need to be trained. The casual observer's visual enjoyment increases immeasurably when he or she understands some of the demands, the technical knowledge, the craftsmanship, history and lore of the art of bonsai.

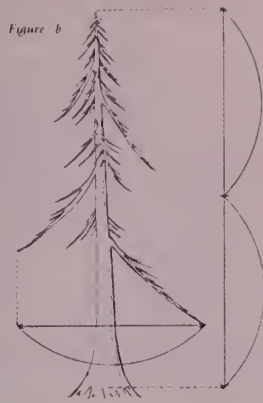
### let the tree tell you

Just as Rodin chipped away the marble to find the sculpture within, Ballard says he approaches a plant by trying to find a feeling for the design that's inherent in the tree and then enhancing it. "You can approach it by letting the tree tell you, or you tell the tree," he says. More and more bonsaiists are looking at the trunk as a symbol of a tree's own special history. "You can embellish it here and there, but its own special history is ingrained in the wood."

Froning takes a like approach. "I look at a tree to see how it wants to go. I don't wire everything in place immediately. I follow the inclination of the particular tree."

This greater reliance on the tree-tells-you rather than you-tell-the-tree, may signify a departure from the more stringent Japanese methods. Not steeped in the





master/student relationship in the way the Japanese are, Americans are creating looser, less stylized bonsai. "After you've been in bonsai for quite a while, you create your own style and depart from the rules," Froning says.

Two common departures from the rules are shown by comparing *Figure a* and *b*. The norms of artistic composition for an upright Western evergreen dictate that the width of the trunk should not exceed one sixth of the height, but many bonsai artists value thicker trunks. Likewise, the span of the lowest branches should not exceed one half of the height, but many bonsaiists train longer branches.

North American bonsai reflect a wide range of geography, climate, and distinctly American plant material. In the Collection, for example, is a water elm (*Planera aquatica*) from Louisiana and three species from Florida: parsley hawthorne (*Crataegus marshallii*); buttonwood (*Conocarpus erectus*); and an impressive group planting of more than 20 bald cypress (*Taxodium distichum*) on a 1,500-pound flat rock.

Bonsai from the wide open spaces of the West Coast are larger than the bonsai in the confines of Japan or the harsh climate of the eastern or midwestern United States. Pacific Northwest practitioners are creating patterns unknown in Japan. Floridians are finding distinctive shapes in their native cypresses and buttonwoods, and increasingly using a sun-bleached deadwood known as "jin."

In general, Japanese bonsai are more disciplined, controlled, conventional, stylized, and fuller than the Chinese whose creations are looser, sparser, more open to the vagaries of nature. Chinese plantings are immense, in keeping with the size of that country.

"The Chinese have more fun with their penjing," says the National Arboretum's bonsai curator Robert Drechsler. "The American eye is not ready for that freedom, but neither are Americans willing to adhere

*continued*

### The North American Collection Grows from Japanese Roots

From the Imperial Household, Emperor Hirohito sent a 180-year-old Japanese red pine in a 300-year-old container. Prince Takamatsu contributed a Japanese beech forest. Eventually, 53 plants were collected, repotted, perfected, and placed on public view in Tokyo so the Japanese people could say a fond farewell. These living gifts, along with six treasured viewing stones, travelled in their own Pan Am 707 freighter to the National Arboretum in Washington, D.C., as a bicentennial gift to the United States.

When 10 years later, Dr. Yee-sun Wu of Hong Kong presented a collection of penjing, including some donated by Shu-ying Lui, the National Bonsai and Penjing Museum began.

The National Bonsai Foundation had been formed in 1982 to build both a North American collection and housing for it — "a place to which American bonsaiists could give or will their treasures knowing that the trees would be cared for and viewed by visitors for years to come," in the words of Bonsai Master Yuji Yoshimura.

In 1975, when John Y. Naka, America's leading bonsai artist and teacher, contributed his world-renowned bonsai, "Goshin," the North American Collection began — and with it a collection of funds. Under the presidency of Philadelphian Frederic Ballard, The National Bonsai Foundation formed a Committee of Thousands — people who would contribute \$1,000 or more — to build a pavilion. A granite wall in the John Y. Naka Pavilion displays just under 500 names of those donors.

The initial selection of plants — chosen from over 100 nominations meriting serious consideration — was made by 12 experts representing all regions of the United States. To be included, a bonsai had to have been created (styled and developed) by a resident of this continent, including Hawaii, Canada and Mexico. Imported trees are eligible for inclusion only in very exceptional cases and only if trained for more than 20 years by a North American resident.

Now on display in the Arboretum's combined collections are between 125 and 150 miniature trees, the most comprehensive exhibit of bonsai in the nation. Eventually, the Foundation hopes to expand with trees from Mexico and Canada. The Collection's size, limited by space and availability of curatorial care, will ultimately be about 75 full size and 25 miniature bonsai, all of which may be displayed from time to time in the Naka Pavilion, loaned to affiliated institutions, or used in special exhibits.

Arboretum staff members and volunteers primarily from the Potomac Bonsai Association, under the direction of curator Robert Drechsler, care for the trees, and the Foundation seeks funding for capital improvements and assists in interpretive and educational activities.

The dedication of the Collection is only the beginning. The National Bonsai Foundation "envision[s] special exhibitions devoted to a particular artist or artistic school, or to a single species or style, or to the formal display of bonsai and associated artifacts or comparisons between bonsai from different regions or countries."





If a prize were given for the heaviest bonsai in the North American Collection it would have to go to a Floridian group planting of Bald cypress, *Taxodium distichum*, on a 7-foot-long natural stone slab that weighs 1,500 pounds. The more than 25 trees were collected in 1988 by Jim Fritchey and Dick Wild.

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to the strict guidelines of the Japanese."

Eventually the Arboretum's exhibit will also include bonsai pots and stands, scrolls displayed with formal bonsai settings, and viewing stones (suiseki), which represent natural phenomena such as distant mountains, islands and waterfalls and are exhibited in conjunction with bonsai. Here, too, cultural differences emerge.

The Japanese tradition, for example, dictates that pots and accompaniment be subordinate to the tree, while Chinese pots are ornamental in their own right. Japanese feel suiseki must remain just as natural forces shaped them, and not be touched by human hands. The Chinese, however, make a separate craft of cutting and joining stones to produce huge and fantastic creatures.

To those who practice this art, bonsai is much more than just a hobby. And its American enthusiasts in the United States

are increasing — California alone has 70 bonsai clubs. "You get hooked on a tree and you're done," says Doris Froning. But such dedication is not for everyone. For those who want to feast on the fruits of others' labors, the North American, Japanese, and Chinese collections at the National Arboretum, now provide an opportunity to do so. And perhaps the Department of Agriculture, under whose guardianship the Arboretum is, will have to post warning signs about the infectious nature of bonsai fever.

John Y. Naka has said, "What I like about bonsai is that it has a beginning but no end. A bud today becomes a branch tomorrow. It is like searching for the rainbow's end; the farther it is pursued, the farther away it is. There are no borders in bonsai. The dove of peace flies to palace as to humble house, to young as old, to rich or poor. So does the spirit of bonsai."

### To See the North American Bonsai Collection

The National Arboretum in Washington, D.C. is open every day of the year except Christmas. Hours are Monday through Friday, 8 a.m. to 5 p.m.; Saturday and Sunday, 10 a.m. to 5 p.m. The National Collection of North American Bonsai is open daily from 10 a.m. to 2:30 p.m. Admission is free.

For more information, write:  
U.S. National Arboretum  
3501 New York Avenue, N.E.  
Washington, D.C. 20002  
Phone: (202) 475-4815

Judy Mathe Foley is a freelance writer, editor and desktop publisher.



# Resolved for the New Year

## 2 LET GO - 2 HANG ON

**F**ive years ago my partner attached a new "vanity" license plate to his beloved pickup truck. The new plate read "2 LET GO." I didn't get it. Did the number 2 mean "to" or "we two" and what was to be let go? What this message means to my partner I'm still not sure of, but as I contemplate the New Year of 1991, that navy and yellow Pennsylvania plate speaks directly to me, a senior gardener with 40 bulb-planting falls under her trowel.

This past spring, lethargy, sloth, travel and a touch of Carpel Tunnel kept me from pruning our 50 feet of boxwood and Japanese hemlock hedges. Feeling guilty and harried two days before a trip west, I asked our long-time tree maintenance professional to give me a hedge pruning bid. Paul's arm swept over the sickly half of the boxwood planting and his eyes and mouth said "Take it out! You can do it yourselves but let go of all that pruning. Let the good boxwood billow!" The partner labored over the summer removing 25 feet of ancient plants, and a friend transplanted the healthiest of these to his Chestnut Hill garden. New serene grass now grows in an attractively opened space and the healthy remaining boxwood has begun to billow and to muffle traffic sounds. We fertilized and mulched the hemlock hedge and will prune it in April to retain the formal balance needed in this altered garden.

Our three-acre property was named "Cherry Hill" by former owner Arthur Paul. The cherry trees are long gone and in honor of the creatures that now roam the orchard space we have renamed it "Deer Park." We have fought the hooved invasion on many fronts: 8-foot plastic mesh fencing; wire egg baskets to cover choice plants; 4-foot circles of wire fencing erected around luscious shrubs like azaleas and young hollies; Irish Spring soap dangling in panty hose from dozens of strategically placed stakes. It's time to let go and resign myself to Joanna Reed's philosophical pronouncement: "The animals who share my acres, share my taste in plants." It sounds like a mantra, one to repeat as I walk in our woodland garden surveying the wreckage. Let go of all those interesting hostas, the low, luscious Polly Hill azaleas, the striking foliage and red blossoms of my partner's *Trillium erectum* patch. Enjoy the daffodils and *Sarcococca*, the *Skimmia* and *Aconite*.



By Mary Lou Wolfe

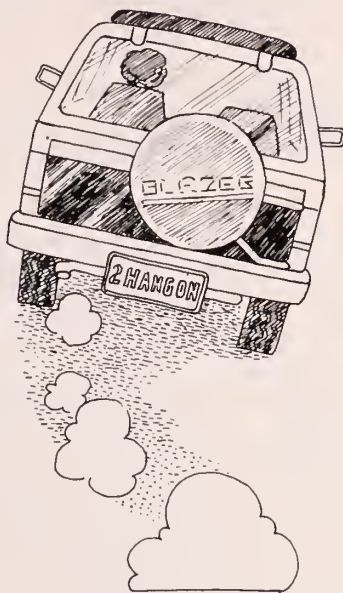


Illustration by Julie Baxendell

Rejoice that these are not yet on the herd's menu and stop barricading the woods. They were here first.

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***For April 15, 1985, I read "Two toads being intimate in goldfish pond. Will we have eggs?"***

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Over lunch last week an old friend told me about her thirtyish daughter's recent visit and appraisal of her mother's house plant collection. Green, yes, but a rather awkward assortment of leggy, unbalanced potted antiques. As they walked from plant to plant in the east-facing dining room there was a plaintive litany from mother to daughter. Of the misshapen 6-foot rubber plant: "A little cutting from your 7th grade piano teacher." Then the empty-stemmed grape ivy: "A piece from Mimi's favorite plant." Of another scraggly bit: "A little plantlet from Grandfather's screw pine." My friend's daughter concluded her inspection and pronounced it "A horticultural tour of *Mother's Memorial Garden*." Not knowing what a screw pine was I consulted Wyman's Gardening Encyclopedia when I got home and found it to be *Pandanus*. Wyman says "A few make excellent house plants but only while they are young. As

they grow older and taller they should be discarded before they become unsightly." I, too, have some house plants that carry emotional baggage beyond their abilities. One, a staghorn fern I had purchased just after my mother's funeral, had become a family of staghorns measuring 42 inches in circumference and requiring not only major supports but youthful muscles to shift it from greenhouse to summer porch. You can't imagine how relieved I was to send it off last October in a nephew's BMW to begin a new life in his bright, New Jersey living room. I have an epiphyllum collection that's up for adoption too. Not enough space, too many plants, time 2 LET GO.

Lest you think it's all downhill for this senior gardener in a mature garden let me tell you what I don't intend to let go of. For the 12 years we have lived here in Deer Park, I've kept a gardener's and bird watcher's calendar in a series of ring-bound books sold as three-year calendars. These notebooks sit between the kitchen and greenhouse, right next to the pruning shears and phone book. In other words, both inescapable and convenient. I know, by consulting my calendars, when to look for *Helleborus niger* bloom (March 6, 7, 8), the first frost date on our hillside (first week in November), and on April 29 or 30th each year I watch and listen for a bossy pair of house wrens to arrive. For April 15, 1985, I read "Two toads being intimate in goldfish pond. Will we have eggs?" We did, and "Toadlets the size of small crickets ringed the pool" on June 27.

Rock gardener Anita Kistler takes the notebook keeping much further with a series of "Nothing" books. These blank books are of uniform size, 6" x 8" with hard covers. The current book fits into her purse and goes with her to lectures, meetings and on travels. Her system of collecting green wisdom in one portable place is one I'm going to copy this year. Now, if I can just find a purse into which a 6" x 8" book can fit with all my paraphernalia...

Finally, there's another thought as I contemplate the New Year. Why not a vanity plate for my 80,000-mile Blazer? It will read: "2 HANG ON."

Photographer/writer Mary Lou Wolfe is a frequent contributor to *Green Scene*.



# THE WINTER OF OUR DISCONTENT

*The author explores three types of horticultural neurosis likely to take hold from November to March.*



By Helen Chappell

It is a stark fact of life that, when you get right down to it, there is nothing whatsoever to do in the garden in the depths of winter. Struggle as we may to avoid this harsh reality, we gardeners never feel more miserably impotent than between the months of November and March. Obsessed with our delusions of controlling the forces of nature at the best of times, the winter months see us exhibiting ever more bizarre and frustrated quirks of behavior. God has flicked off the switch on His celestial lighting circuit and we, like children hoping to avoid bedtime, try not to notice by running about, getting over-excited and pretending to keep busy.

Three types of horticultural neurosis are liable to get a grip on us now if we are not very careful. The most common of all, I fear, is the masochistic, the victim of this malaise is ruthlessly confirmed in his or her warped work ethic by the full weight of the gardening establishment. Libraries full of books and magazines exhort the redundant winter gardener to keep at it, night and day, without ceasing or stinting or pausing for a warming glass of vintage port or even a candied chestnut. "Now is the time of year," the kill-joys hector, "when you should be scrubbing out flower pots in the greenhouse, sharpening your lawn-mower blades, netting your brassicas, repairing the fence, testing the pH of your soil, checking the electrical safety of your appliances and examining your stored root vegetables for the tell-tale toothmarks of mouse, bat, vole or escaped armadillo."

Not even the festive season is considered sacred. In one book of mine, which purports to find me something useful to do for every week of the year, the author grudgingly concedes: "Round about Christmas time few people do much gardening." Yet a few lines later he is gloomily insisting I syringe my sea kale with tepid water, anoint the handles of my tools with linseed oil and pay particular attention to outside taps and

pumps. January is no time for slacking. Why don't I rise at dawn and plant a heather garden before going to work? Why not start forcing hydrangeas in pots? "Give the garden shed a good clean-out," he thunders, "repair all the seed boxes and then dip them in a solution of green wood

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*Why don't I rise at dawn and plant a heather garden before going to work?*

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preservative." And if that were not enough, "false bottoms to these boxes may be made with strips of plastic material if necessary."

## *deranged Cinderellas*

With life-enhancing tasks like these to occupy the scarce daylight hours of winter, it is no wonder we are liable to react by plunging into a deep, seasonal depression. Far better, perhaps, to heave our bottoms into the nearest armchair to become voyeurs instead. This strikes me as a more benevolent neurosis to develop. While always likely to Go Too Far, it does protect us from becoming deranged Cinderellas toiling in the potting shed while everyone else is shrieking with mirth over a game of Scruples and several bottles of discount Armagnac inside the house. The voyeur tends to err on the side of selfish, sensual pleasure. He (and it usually is a "he,") is also a cunning brute. To save the effort of actually setting foot outside in anything less than a sub-tropical temperature, the voyeur has already planted a thicket of what he knowingly calls "winter color" in full sight of the nearest window.

The naked scarlet stems of the dogwood, the blushing pink blooms of the winter flowering cherry, the shamelessly blue spruce *Picea pungens* jostle for his leering attention with the bulging red berries of *Cotoneaster conspicuus* 'Decorus' and

others too showy to mention in a family newspaper.

When his jaded appetites have been sated by this non-stop display, the voyeur turns to the cheaper thrills of the "adult" plant magazines. These are not to be confused with the harmless winter seed catalogs which are filled with columns of dense type and advice on broadcast sowing. These the voyeur finds about as interesting as newly discovered East European political cabaret groups or the history of Norwegian office furniture.

The "adult" plant catalog is a glossy full-color publication which stops at nothing to excite the frenzied lusts of frustrated gardeners during the bleakest season of the year.

Well-developed shrubs and full-grown, adult perennials are offered for sale and dispatched from the nursery under plain cover with "full instructions included." Readers are invited to ogle the "soft, dusky pink tips" of the Asiatic hybrid lily and the "firm petal texture" and "strong, well-shaped heads" of the cactus dahlia. There are "handsome, bulbous" peonies, "outstandingly upright" verbascum and fluorescent lupins, which are coyly described as "well worth having." Undoubtedly Going Too Far by this stage, the poor voyeur may lock himself away to peruse his pile of ever more lurid garden catalogs until reduced to those cheap and tawdry leaflets whose souped-up colors are more reminiscent of dirty seaside postcards than the pages of *Playboy*.

This sorry decadence is dismissed with impatience by the third category of neurotic winter gardener. No slumping in an armchair and drooling like Sir Les Patterson for the megalomaniac. No sloping off in February for a *Glühwein*-sodden skiing trip or a fortnight in Barbados, either. The New Year resolution of this herbaceous Cecil B. DeMille is to undertake some grandiose and back-breaking project in the backyard,





preferably involving the forced labor of a cast of thousands.

The alleged aim is to impose a dubious "labor-saving" system or invention upon the dormant garden, which no longer has the thorns or tendrils to fight back. "If any particular part of the garden appears to be badly drained in winter," declares my workaholic garden book, "trenches can be dug and agricultural drainpipes laid down."

Think of it. *Trenches can be dug*. You and I sinking up to our knees in freezing mud in total darkness at four in the afternoon digging trenches. Whistling *When This Lousy Was Is Over* too, no doubt, and keeping a watch for whizz-bangs. *Agricultural drainpipes*. The mind reels. I have never seen an

agricultural drainpipe, let alone received instruction as to how it might be laid down. Nor do I wish to know.

The winter megalomaniac is wildly excited by all such exercises and thinks nothing of laying tons of concrete and crazy paving, assembling dry stone walls, planting five-acre orchards, creating neo-classical terrazzos and ha-has, erecting geodesic domes over the vegetable patch to provide an artificial micro-climate and installing the last word in underground irrigation systems powered by solar energy.

One gardener I know has even been threatening to build a 12-foot breeze-block replica of a Mesopotamian ziggurat in which to grow his begonias. Only the threat

of having to obtain planning permission has deterred him from this gross act of folly.

All is not hopeless, however. He was recently spotted sneaking into his study with a stack of glossy ski brochures and a jar of candied chestnuts. His wife tells me he has locked himself in. Would I like his leftover plant catalogs?

As for me, I refuse to trifle with the false bottoms of my seed boxes or to syringe my sea kale. If winter comes, can spring be far behind?

Helen Chappell, whose articles apply no matter where we garden, writes for the Sunday Gardening section of *The Independent* in London, England.





# A WINTER EXTRAVAGANCE- *Forcing Cut Branches for Winter Blooms*

 By Cheryl Lee Monroe

**I**n the short grey days of late winter when I succumb to the winter blues, I know of no better way to lift my spirits than with flowers. A vase filled with blooming branches of witch hazel or flowering plum chases away the gloom and adds sunshine to my days. It's not hard to coax these branches into bloom, whether they come from the garden in winter or a flower shop. I find that early spring at the Philadelphia Flower Show is a great opportunity to see a wide range of spring blooming trees and shrubs, cut and forced for an amazing variety of floral designs.

I first learned to use cut branches forced in late winter in my floral design work in the Washington, D.C. area. Branches from

cherry, plum, forsythia, quince and viburnums are glorious when used for stunning large arrangements that spill out into the room, and they spilled aplenty in Washington, for formal receptions and elegant private parties. Large branches added height and width to many of the masterpieces I saw and worked with there, while small branches added interest and graceful lines for tables or for casual bouquets in the rooms.

#### ***a unique commercial development***

In late winter and early spring, flower shops can purchase forced cut branches from local flower wholesale businesses that import them for resale, or from a

handful of small businesses who grow the plants, harvest the branches, encourage them through their dormancy early, force and deliver them.

Jenkins Florist outside of Washington, D.C. is one such grower. They are unique, however, because David Jenkins and his family grow a wide range of trees and shrubs on their farm exclusively to harvest the branches. They can satisfy the dormancy requirements for the branches earlier than is possible through the winter conditions in our gardens, and after these requirements are satisfied, simulate the conditions of spring to encourage the branches to flower. They accomplish that through carefully manipulating temperatures, timing, mois-





At left, branches of *Forsythia* and *Prunus triloba*, the purple leaf plum, were forced into bloom in early March to grace this early spring arrangement.

ture and light in coolers and greenhouses. Jenkins's techniques are not unlike those used by the many exhibitors for the Philadelphia Flower Show, except his plants are forced and grown for the fresh cut flower market.

When cut branches are imported for resale at a local wholesale business or purchased from Jenkins, they need only be conditioned properly in water, provided with good light and temperatures and they will burst into flower anywhere from five days to two weeks.

Forsythia, quince (*Chaenomeles* sp.) and pussywillows from the fantail branches of *Salix sachalinensis* to the reddish-tinged catkins of *Salix gracilistyla* are among the

many branches available in late winter. Jenkins grows and cuts these along with elegant tender woody ornamentals such as *Buddleia asiatica*. In February, this buddleia, with its stunning blue bottlebrush flowers, is unbelievably beautiful in a vase. Other shrubs valued for floral designs are viburnums, weigela, lilacs, dogwood (*Cornus stolonifera*) for its red or yellow stem color, and holly (*Ilex verticillata*) for its berries. Cut branches from small flowering trees such as *Prunus* can also be forced and are valuable for flower designs, particularly *Prunus triloba* or flowering plum.

Like many of the Philadelphia Flower Show exhibitors, Jenkins has learned over the years the secrets to forcing by trial and

error. For example, Jenkins's father experimented with cut branches of forsythia in the early 1900s. To provide artificially the dormancy for forsythia branches, he experimented with every possible cold temperature until he found the requirement for forsythia to be 29°F. for four to five weeks. At Jenkins they now cut forsythia the day after Thanksgiving and place it in buckets in coolers kept at 29°F. They remove these branches from the cooler starting the day after Christmas to fill orders any time after January 20.

Not all shrubs are easy to force early; those with late spring bloom dates are more difficult, e.g. viburnums, lilac, and weigela, which are best cut closer to their regular bloom time (see table). *Ilex verticillata*, a favorite for its berries, is cut in the fall.

Some flower designer favorites are among the *Prunus* species, which include cherry and plum. For many of us, cherry blossoms and spring go hand in hand, but plum is better because it forces earlier than cherry. A favorite at Jenkins is still the old-fashioned purple-leaf plum, *Prunus triloba* 'Newport.' Newer cultivars such as 'Thundercloud' are better known for their summer leaf color, but do not force as well and blooms will fall twice as soon.

Some of the best cut branches for arranging are the willows (*Salix* sp.). There are selections known for their contorted branches and some for their gorgeous catkins. The fantail willow's (*Salix sachalinensis*) branches are twisted and flat. *Salix gracilistyla* is best to force for its long pinkish to reddish catkins. David Jenkins's favorite cultivar is *S. gracilistyla* 'Silver Claw,' a selection he originally collected years ago from Swarthmore College and one that is hard to find today.

### forcing for your arrangements

For your own forcing, spring flowering shrubs are best and respond well one to two

*continued*





A vase filled with cut branches of lilac forced into bloom in April with ranunculus, carnations, and September kraut — a small but wonderful extravagance.



Viburnums, although more difficult to force early, can be encouraged to flower closer to regular bloom dates as with this Snowball viburnum. They make smashing additions to floral designs.

months before normal bloom time. Forcing time depends on weather conditions and the particular shrub or tree. February is best for early flowering varieties and March for later ones, with less forcing time necessary as plants get closer to their natural flowering time (see table).

When winter arrives flower buds have already formed on trees and shrubs in the garden, their delicate flower petals well protected by layers of bud scales. Following a period of dormancy that differs for each plant, moisture, light and the warm temperatures of spring will stimulate buds to swell and bloom.

By February, winter temperatures and their duration have satisfied dormancy requirements for many plants in the garden, and you can force branches by duplicating spring conditions. Choose a mild day to cut branches from your garden; cut during the warmest part of the day when buds are filled with the most sap. Consider carefully which branches to cut; you still want a great spring display outside. Choose branches that are well budded and have interesting curves. Follow good pruning practices and take care not to leave excessive stubs. Prune to maintain the natural shape of the plant unless, of course, you wish to make a spectacular flower arrangement. I have made some sacrifices in a plant's shape particularly with viburnums, which were well worth it when gorgeous flowering branches graced arrangements for special occasions.

Proper treatment after collecting facili-

tates forcing and allows flowers to develop slowly, encouraging large flowers with good color. Mash the bottom inch or so of the stems with a hammer and place in water. A clean slanted cut made with a sharp knife will also suffice, but with thick branches mashing is easiest and ensures rapid water uptake. Add floral preservative or sugar and a drop of bleach to the water and change it every few days over the forcing period. Both practices extend the life of the branches by reducing bacteria in the water and keeping the stems unclogged.

Moisture is needed to encourage branches from their dormancy but how much and how it's provided are debatable. Duplicating the moisture available to trees and shrubs outside in the spring include such practices as immersing twigs in warm water for 12-24 hours; wrapping damp burlap or newspaper around the stems for several days, or spraying branches with water several times a day. All add moisture, which prevents drying, but it is uncertain if these practices really do promote flowering. Water uptake through the stem, if not inhibited, should provide ample moisture, and branches should not dry out unless room temperatures are excessive.

After placing branches in water, leave them in a cool dark spot until buds begin to swell. Once buds swell, they can be moved to a well-lighted area to encourage blooming and help flower color development. Avoid placing branches in direct sunlight. Cool temperatures allow buds to develop slowly, and although higher temperatures

(over 65°F.) accelerate development, they reduce the quality of flowers.

When color appears in the buds, it's time to arrange your branches in containers. Don't wait until blossoms are fully open — you'll miss the pleasure of watching them open and shorten their display time. Tall vases are wonderful for graceful branches; use small containers where a few daffodils or helleborous can be added from your garden.

One of my favorite books, *On Flowers*, by Kathryn Kleinman (Chronicle Books, San Francisco, CA, 1988), which I turn to for inspiration, advises us to "measure the pleasures of extravagance . . . in armfuls of blooms." In winter, we need the pleasure of extravagant blossoms on cut branches to work magic for our spirit.

#### For More Information

*Gardening, Forcing, Conditioning and Drying for Flower Arrangements.* Arno & Irene Nehrling, NY, Hearstside, 1958.

(Available in The Pennsylvania Horticultural Society Library. Ask librarian for articles from resource file.)

Ceryl Monroe is administrations coordinator for the Pennsylvania Horticultural Society. She is a freelance floral designer and gardens with her husband Thomas in West Chester.



## WHEN TO CUT AND FORCE FOR BLOOM

Shrubs	Cutting Time	Forcing Time	Vase Life
Azalea ( <i>Rhododendron</i> sp.)	late January/ early February	3 - 6 weeks (depends on species)	5 - 10 days
<i>Cornus mas</i>	late January	2 - 3 weeks	5 - 7 days
<i>Cornus florida</i>	mid-March	2 - 4 weeks	7 - 10 days
<i>Chaenomeles</i> sp.	February mid-March	3 - 5 weeks 2 weeks	4 - 7 days
<i>Cytisus scoparius</i>	late January mid-March	4 - 6 weeks 2 - 3 weeks	flowers do not last long 2 - 3 days but branches are very useful
<i>Deutzia gracilis</i>	mid-March	2 - 3 weeks	2 weeks
<i>Forsythia</i> sp.	early January early February mid-March	3 weeks 2 weeks 1 week	1 week
<i>Fothergilla</i> sp.	early March	2 - 3 weeks	1 week
<i>Hamamelis</i> sp.	January	1 week	3 - 5 days
<i>Malus</i> sp.	mid-March	2 - 3 weeks	1 week
<i>Philadelphus</i> sp.	mid-March	4 - 5 weeks	2 - 3 days
<i>Pieris japonica</i>	early February mid-March	3 - 4 weeks 1 - 2 weeks	10 days
<i>Prunus persica</i> (Flowering peach)	late January	4 - 5 weeks	1 week
<i>Prunus sieboldii</i> (Flowering cherry)	late January mid-March	3 - 4 weeks 2 - 3 weeks	1 - 2 weeks
<i>Prunus triloba</i> (Flowering plum)	late January	3 - 4 weeks	10 days
<i>Pyrus communis</i>	late January/early February mid-March	4 - 5 weeks 2 - 3 weeks	1 - 2 weeks
<i>Salix</i> sp.	February	1 - 2 weeks	
NOTE: To stop flowers from developing into long, yellow pollen-filled catkins, remove bud scales. When flowers are fully developed, remove from water as they will root and rooting causes flowers to drop.			
<i>Spiraea prunifolia</i>	mid-March	2 - 3 weeks	7 - 10 days
<i>Syringa</i> sp.	early March	4 - 6 weeks	1 week





# THE HERITAGE EIGHT



By Natalie Kempner



photo by Gina Burnett

*Working with young people in Susquehanna's Green Countrie Towne gardens to preserve the past and shape the future.*

People pelted visitors with rose petals, politicians spoke, the media filmed, and jubilant gardeners introduced visitors to the greening miracles of this inner city oasis. The first day of the two-day September 1990 dedication of the Susquehanna Greene Countrie Towne in North Philadelphia was triumphant.

The second day belonged to the neighbors. Festivities featured an awards ceremony honoring dozens of children for their work in the Youth Tree Corps where they pruned trees, cleaned pits, removed stakes and wires, and learned about tree anatomy. Feasting on baked yams and peanut candy, children and adults participated in the African story-telling event. At the Garden Party finale, teens danced with grandmas, toddlers with moms, great-grandmas with dads balancing babies on their backs. Everybody danced with everybody! And everybody celebrated themselves and each

other and what they had accomplished together.

Getting the generations together was not left to chance. The people who planned and the neighbors who worked in Susquehanna knew that all the hoopla would come to naught if no younger people were ready to carry on. The Susquehanna neighbors have worked with Barbara Wagner, Philadelphia Green's Neighborhood coordinator for Susquehanna and Philadelphia Green staff members, Ken Suber and Jeff Myers, to develop programs in local schools, launch the Susquehanna Youth Tree Corps and establish Childrens' Gardens. Now, to span the generations, the Intergenerational Heritage Project has been started.

The prime movers of Heritage are eight seasoned gardeners, all over 60. All have plots in Glenwood Green Acres at 18th and Glenwood in North Philadelphia and are committed to preserving the past to shape





photo by Ron Williams

the future. They began by sharing their life stories at coffee klatches in the winter of '89.

Common themes run through the Heritage Eight's stories: disciplined, hardworking childhoods or farms with close connection to the land and its fruits; migration to Philadelphia to work at city jobs and raise families. In retirement, encouraged by Philadelphia's boom in urban greening, they have honed skills long in disuse and gained new respect for an almost forgotten way of life.

As they talked and listened at the klatches, the Heritage Eight realized that they, as elders, possess vital knowledge, bred in their bones, which they long to transmit to the young. That knowledge has to do with the connections between green plants and life on earth.

### *how the garden started*

The year Heritage gardener James Taylor retired from his job, the factory/warehouse (whiskey, furniture, tires) that filled the entire block across from his house on Glewnood Avenue burned down. Taylor found himself sitting on his front porch, gazing at 3.67 acres of blackened debris.

"I knew I needed a hobby to keep me busy — to get me out of the house — and

*continued*

Top left, Thirty children planted on Heritage Day at a workshop at Green Acres at 18th and Glenwood Avenues. The compost pile provided an ample supply of humus for the children's plantings.

Bottom left, Demetrius Taylor takes time out for a tomato snack at Green Acres.

Top right, Overview of Green Acres at 18th and Glenwood Avenues, where 80 gardeners have plots of fruit, vegetables and flowers.

Bottom right, James Taylor picks seed by hand from a cotton plant; these seeds will be planted in spring by youthful gardeners.

photo by Ron Williams





here was this big old lot."

That was in 1984 and Taylor has been busy working on that lot ever since. With know-how remembered from his grandpa's North Carolina "trucking farm," and some help from Philadelphia Green, he became the life force of Glenwood Green Acres.

Taylor, tall and lean, seems always to be in the garden, ready to guide a guest along the carpeted paths (Taylor laid the carpets), which separate the 96 tidy plots. He explains the ingenious watering system, which he and Leonard Sherrod designed and installed to carry water from a hydrant on 18th Street, through hoses and pipes, to strategically located spigots throughout the farm. He identifies the sample Heritage crops — tobacco, sweet potatoes, cotton, peanuts — and surveys the elegant East Hill triangle with its pergola and terraced gardens, beaming with pride.

"Anything you wanna do," he says, "you can do it!" And he does make it seem that way.

Rosa Lee Taylor, a small, vibrant woman, her black hair tied into a ponytail, has lived in this neighborhood for 50 years. As we sit with her two pink-coated granddaughters at a picnic table in Green Acres, eating raw string beans, she tells her story.

"When my husband died I didn't know where to turn until Mr. Taylor got this garden started. And now I'm teaching my grandchildren. I try to get them thinking about something besides the street. They plant tomatoes, dig potatoes. Those are the real lessons. They'd never know that string beans grow on a vine if it weren't for this garden."

Rosa Lee grew up in South Carolina. "My grandfather had 12 houses and two farms. My job was watching the younger kids — there were 15 of us. We grew our food, cooked on a wood stove, sewed clothes by hand with patterns made from newspapers.

"My mama would pick cotton in the morning and go home and have a baby and soon be back to picking a hundred pounds of cotton a day, and plowing with mules. Mama cooked corn biscuits better'n anybody in the world. Grandpa ate 25 at a meal. When he could only eat 15, he went to the doctor to see what was ailing and the doctor said, 'You've had too many biscuits.' "

### ***you'll never be hungry***

Alice Cooper, oldest of the Heritage Eight, sits among the plants and photos in her living room. A rugged woman with iron-grey hair, a sharp wit and "a good remembrance," she is wearing hightop Aeroflex shoes, a blue jean skirt and a purple sweater. At 83, she cultivates two 36' x 36' garden plots.

photo by Barbara Wagner



Alice Cooper, one of the Heritage Eight, is shaded by her grape arbor, a fruitful complement to her three-season (spring, summer and fall) vegetable garden.

***"When that crop come up, it's music to your ears. It makes a song that gets going with your hoe — zing, zong, zing . . . then that hoe makes music too and you don't even know you're working. . . ."***

"One's not enough for a day's work," she explains. "I'm out there all day long in summer. I do two plantings."

Because of a "bad leg," Alice needs a pull to get up out of her chair, and she uses a stick to walk to her garden. "But, when I'm there, I forget my leg!"

Alice never wears gloves in the garden unless she's handling manure. "That good old earth — it feels so good on my hands! You take my garden away from me, you take my soul."

She brightens, "I have two 'greats' who love gardening. Eric and Dominique follow me in my gardens just like I used to follow my mother."

In the spring, the Heritage gardeners discussed action. They harbor no illusions about suddenly turning kids transfixed by TV images into gardeners. Gardening is hard work with no quick, glitzy material reward, and the lure of the drug economy is just outside the garden gate.

The Eight's spirited brainstorming offers a variety of opinions and possible solutions. Gardener Gladys Mayo captures the essence of the problem for today's kids: "Too much environment!" All agreed that today's "environment" focuses on immediate pleasures, and too few work requirements. "Kids say they're bored. On the farm, no such thing as bored. You always had something to do." Ruth Taylor, wife of

James, introduces what may be the simple yet profound success factor. She says she was never "compelled" to work: "I just wanted to copy my grandpa. I'd follow him everywhere and one day he said, 'C'mon baby, I'm gonna teach you how to grow something and you never be hungry!' I been gardening ever since. It's the same now with our grandsons. They watched TV constantly until I gave them a garden where they could drop seeds."

The conversation continues: "But you and Mr. Taylor offer role models. They want to be like grandpa. What about the kid two blocks down who doesn't know anybody out in a garden working?"

"Maybe you start a little group. You say, 'Would you like to have a garden?' And then you help with it."

In May, on a Saturday morning, 30 kids, toddlers to teens, and a dozen grownups gather at Green Acres for the first Heritage Day. In gardening garb of bib overalls, red shirt and straw hat, Heritage gardener James Alexander sets the tone: "What is gardening?" Silence. A murmured, "Planting stuff?"

"Stuff?" Pause. Vegetables, fruits, flowers, trees, Gardening is watching seeds come to life. And remember, we can plant, we can water — but only God gives the increase."

### ***the children's groups***

The children split into groups with seasoned gardeners to plant collards, tomatoes, peppers in containers. One leader quiets her chatty group with: "We can all sing together, but we can't all talk together."

Peanuts are the novelty of the day. Three to a pot. No one has ever considered that a peanut is a seed, or that peanuts grow in the ground.

An animated girl wearing oversize white work gloves identifies her plants, explaining that all need "Water, sun and care."

A small boy cheerfully identifies each of his six plants incorrectly.

Plants potted, the children gather in larger groups to hear stories of history and heritage.

Eighty-three-year-old Alice Cooper looks alarmingly vulnerable as she faces her cluster of squirmy, self-conscious kids, mugging at the video camera recording today's action. Soft-spoken and unflappable, Alice speaks of her childhood, two or three generations removed from theirs.

"Who's wearing cotton?" She probes until a boy plucks tentatively at his denim jacket.

"My story," starts Alice, "is about cotton before it's your jacket. For me, cotton is not just what your jacket is made of. It's what my life is made of. I grew up in Rocky





Children at the Heritage workshop learn proper planting techniques for potting sweet potato vines, tomatoes and peppers from Wilbur Hite and Blanche Epps.

Mountain, North Carolina, and I learned from childhood how to plant, how to reap, how to sow."

As she talks, she pantomimes the sowing, the raking... "When that crop come up, it's music to your ears. It makes a song that gets going with your hoe — zing, zong, zing... then that hoe makes music too and you don't even know you're working..." She moves to her music.

"And then, when that cotton ready, we pickin' all day, sunrise to sundown."

"You got no pickin' machines?"

She holds up strong, weathered hands. "These! Use any other machine, it destroys the plants and there's no second picking. Use these, you can pick three times."

"Was tobacco a lot of work like cotton?"

She describes the tobacco season from burning off the fields to curing and grading the leaves.

The kids glance around at the video, wondering, maybe, if it's "cool" to be so interested in a great-grandmother talking about picking cotton and tobacco all day in the sun.

"Will those crops grow here in Philadelphia?"

Alice produces healthy cotton and tobacco plants. "Your leaders will get these. You take care of them and they'll grow. Call them your heritage crops."

"How tall will the tobacco get?"

*continued*

## SUSQUEHANNA, THE FIFTH GREENE COUNTRIE TOWNE

In September, 1990, Susquehanna, a 120-block neighborhood in North Central Philadelphia, was dedicated as The Pennsylvania Horticultural Society's fifth Greene Countrie Towne. Susquehanna joins West Hagert, Point Breeze, West Shore and Francisville to form a network of neighborhoods focused on greening.

In 1681, when William Penn sent his commissioners to plan a "great towne" in Pennsylvania, he admonished them to build houses "in the middle of the lot so as to leave ground... for gardens, or orchards or fields that it will be a greene countrie towne which will never be burnt and always be wholesome." Three hundred years later, the Society's Philadelphia Green program and residents of Philadelphia neighborhoods are working together to reclaim Penn's vision.

Each community provides volunteer labor and organized block clubs to implement and maintain the greening projects. Philadelphia Green provides the plants, construction materials, technical assistance and educational opportunities.

Susquehanna is home to strong, active community leaders, dedicated to beautifying their blocks and saving them from urban renewal demolition. Community development corporations such as the Philadelphia Community Rehabilitation Corporation (PCRC) and Advocate Com-

munity Development Corporation (ACDC) have helped to generate an extensive neighborhood revitalization program within the area.

As the result of community-based efforts over the past 15 years, Susquehanna boasts nearly 200 vegetable, flower and sitting gardens, including Diamond Acres with its spectacular Mt. Kilimanjaro mural backdrop, two children's gardens — the Garden of Life and the Busy Bees — as well as the four-acre Glenwood Green Acres, with its dramatic East Hill flower garden. Susquehanna's streets are lined with trees and curbside planters and giant wall murals overlook garden plots and picnic groves throughout the area.

The Penn State Urban Gardening Program and the Philadelphia Anti-Graffiti Network have cooperated in many Susquehanna efforts.

Funding from The Pew Charitable Trusts has made the Greene Countrie Towne Program possible. Funds for other Philadelphia Green programs come from the City of Philadelphia's Office of Housing and Community Development, The Pew Charitable Trusts, The William Penn Foundation, corporations and other foundation grants, garden clubs and proceeds from the Pennsylvania Horticultural Society's Philadelphia Flower Show.





Hilda Armstrong and three young members of the Busy Bees — Michael Felder, 10 (left), Donovan Burney, 12, and Frank Burney, 11 (right) — inspect the peanut crop at 22nd and Dauphin Streets.

"Tall as you. Or taller."  
"Wow!"

The gardeners, young and old, gather at Green Acres' picnic tables to feast on potato salad, chicken, and Gladys Mayo's 22 sweet potato pies. It is clear that Alice Cooper — veteran farmer, master teacher, star performer — and her companion gardeners, have bridged the yawning generation gap, at least for this day.

"What about the kid two blocks down who doesn't know anybody out in a garden...?"

"You say, 'Would you like to have a garden?' And then you help with it."

Three remarkable Susquehanna women, Helen Clowney, Willa Mae Clarke and Hilda Armstrong, have been acting on this Heritage Project suggestion with stunning results.

Teenager Anthony McCoy describes Clowney and Clarke as "two ladies who know about gardening." These "ladies" got Anthony and his friends to transform barren lots in the 2300 block of N. 20th Street to the flourishing garden called The Garden of Life. Here they learn about compost and recycling and cooking.

"Some kids," marvels Clowney, "haven't seen eggplant before — or squash. Some have never even eaten greens! We cook up the vegetables because some of their parents

***Eight grandparents do not a revolution make. The rest of us must join them before it is too late.***

just don't cook."

Aisha, like Anthony, is a pioneer gardener in the Garden of Life.

"Last summer was our first. We hardly knew what to do but we did good because we got 1st prize for the best Children's Garden in the City of Philadelphia."

A few blocks away, at 22nd and Dauphin, 74-year-old Hilda Armstrong and her Busy Bee 4-H gardeners have been at work five years.

In late September, Hilda and a bevy of Busy Bees are excitedly discovering that whole bunches of actual peanuts are the result of the three peanuts they put into their pots on Heritage Day. The kids are in high-spirited perpetual motion, dancing around, all talking at once about their blueberry bushes, their worm farm and the theft-in-the-night of the spectacular gourds that grew on their arbor until a week ago.

Most days of summer, Hilda is here, and so are the children. "They do keep me steppin'! Sometimes I need roller skates. but I like getting them into raising food.

Today's Saturday and they're here, not off with the K-Mart crowd. I consider them my grand-kids."

In the mural above the Busy Bee garden, three generations of gardeners are at work in the midst of vast farmlands. Variations of this theme — the essence of the Heritage project — are illuminated in murals everywhere in Susquehanna. The bucolic back-grounds are the heritage; the mixed generations working together are the hope. The challenge is to keep the two connected.

To do so is urgent. Unless our children become fully engaged adults who are rooted in the past and care about the future, the small miracles of Greene Countrie Townes may one day be viewed as unsettling memorials to brave attempts to turn things around. Eight grandparents do not a revolution make. The rest of us must join them before it is too late.

"Some seeds have been sown," says Barbara Wagner. "And there are sprouts. The program is like perennials. A few healthy leaves the first year. With luck and nurturing, the flowers bloom the second. And many more thereafter."

Natalie Kempner is a frequent contributor to *Green Scene*.



## Hardiness Map

Based on a telephone conversation with Dr. Mark Cathey, it was a printing error on the USDA Hardiness Map that caused the small area around Baltimore City to be uncolored, or creamy white [on the map published in September *Green Scene*, pp. 32-33]. Actually it looks to be almost yellow. However, this area around the Harbor should have been colored a darker shade of pink placing Baltimore City and southern Baltimore County not only in the pink zone (zone 7a), but warmer yet — zone 7b. Here in this large urban area the average minimum temperature is between 10°F to 5°F.

So Amalie Adler Ascher and all other Maryland gardeners in and around Baltimore can be assured they live in zone 7, which rhymes with heaven — and that is no accident.

Rosemary C. Easley  
Urban Agriculture Assistant  
Baltimore County  
Cooperative Extension Service  
University of Maryland System

## Correction: Sea Onion is False Sea Onion

Unfortunately, although James Wiegand says he identified his plant as *Urginea maritima*, “Sea-Onion” or “Sea-Squill,” using *Taylor’s Guide to Bulbs*, I can tell from his photo and from his description in the November *Green Scene* that the plant he is growing is *Ornithogalum caudatum*, “Sea-Onion” or “False Sea-Onion.” His text is a mix of his personal observations of *Ornithogallum caudatum* and information from *Taylor’s* about *Urginea maritima*.

Rick Darke  
Curator of Plants  
Longwood Gardens

## Gifts

Your essay, “Gift Doldrums” (November, *Green Scene*) struck a responsive chord. About six years ago, members of my immediate family voted to stop purchasing holiday gifts. The new rules were: We could make a present, pass along something we own to someone else who covets it, or give a gift certificate for a service we would do for the recipient.

My favorite gift that year was from my son the farrier\* and his family, who gave me a treasure map leading to 5 sacks of

*continued*

“brown gold” for my new perennial garden. The manure was, of course, well aged.

Ellen Platt  
Meadowlark Flowers & Herbs  
Orwigsburg, PA

\*Farrier: one who shoes horses, a blacksmith. Also at times one who heals sick horses.

## *Paeonia tenuifolia* Source

The same week that I was reading about the fascinating history of *Paeonia tenuifolia* (September *Green Scene*) a parcel arrived containing a very healthy, husky division of same — in the single red form!

Of course, I will not be able to confirm that it is the single form until next spring. But you may contact Rod Lysne, R.R. #1, Box 43, Ferryville, Wisconsin 54628. He has what I believe is a new nursery.

Abby Jane Brody  
Morris Plains, NJ

## *Rosa rugosa* ‘Frau Dagmar Hartopp’

I subscribed to the *Green Scene* after John Van de Water wrote about it in the Sunday *Star Ledger* Garden Section. I have received two issues, and I have enjoyed reading them very much.

From the “Species Roses” article in your July/August issue, I would truly love to plant *Rosa Rugosa* ‘Frau Dagmar Hartopp.’

My question is — do you know if Japanese beetles are attracted to this rose as much as to the hybrid tea roses? We have a big problem with Japanese beetles here, and I don’t want to use pesticide sprays.

In Judith McKeon’s article she says that “species roses are generally free of the many disease and pest problems that plague modern hybrid tea roses and their kin.” However, I think Japanese beetles are in a class by themselves so I was wondering if the beetles would find ‘Frau Dagmar Hartopp’ tasty.

Lynne Laguerre  
Hasbrauck Heights, NJ

## Author Judith C. McKeon replies:

The profuse June bloom, fall flowers, and hip set of ‘Frau Dagmar Hartopp’ are not affected by Japanese beetle feeding. However, the July and early August flowers of ‘Frau Dagmar Hartopp,’ like other roses

*continued*

which produce a midseason repeat bloom, are susceptible to damage by Japanese beetle feeding. Hand-pick adult beetles on flowers and apply the biologic control milky spore disease to turf areas to reduce the population of Japanese beetle grubs.

Milky spore disease is available at most garden centers as well as by mail order.



## Pruning Evergreens

There are a couple points deserving discussion in the article on pruning evergreens in the November 1990 issue. New growth on spruces (*Picea* spp.) can be pruned, even sheared, in late spring before buds form, much the way the new candles on pines can be sheared.

The other point concerns the drawing of pine pruning. All the buds on pines occur at the top of the shoot. Removal of one-third of the candle does *not* encourage the development of lateral buds on the remaining two-thirds. Such removal only shortens the candle and thus the length of the shoot. All the buds will form at the tip of the shortened shoot. The drawing implies that new shoots form all along the former candle.

R. William Thomas  
Education Division Manager  
Longwood Gardens

## Tom Monroe replies

I agree that the needled evergreen *Picea* can be pruned in late spring much the same as *Pinus*.

I also agree that pruning the candles on *Pinus* only shortens the candle and the length of the shoot. Cutting the candles does permit a new cluster of terminal buds to develop with the overall result a more compact, full plant.



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winner *Sciadopitys verticillata*  
photographed in June in a  
Hockessin, Delaware, garden.  
See page 4.



# GREEN SCENE

THE MAGAZINE OF THE PENNSYLVANIA HORTICULTURAL SOCIETY • MAR./APR. 1991 • \$2.00



*The Dutch and Flemish  
Style: An opulent  
approach to flower  
arranging. See page 3.*





17



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**Inside front cover:**

"Flowers in a Vase," painted by German artist Jacob Marrel, 1647, in the Flemish style. Permission to reprint painting Courtesy of Private Collection.

Front cover: photo by Priscilla Gene West Shaffer  
Back cover: photo by Kurt Bluemel, Inc.



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*the green scene / march 1991*



"Large Bouquet In A Wan-Li  
Vase . . ." was painted by  
Bosschaert the Elder in 1609.  
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permission from a Private  
Collection.

# THE DUTCH & FLEMISH STYLE . . .

*An opulent approach to  
flower arranging*

 by Priscilla Gene West Shaffer



# THE DUTCH & FLEMISH STYLE . . . by Priscilla Gene West Shaffer

Cottage Tulip Marshal Haig. Breeder Tulip Dillenberg. These, and types of tulips such as Rembrandts, Darwins, Parrots, Fosterianas were all beautifully photographed and seemed larger than life. The photographs in *Flowers in Colour*, a volume devoted in the Dutch and Flemish tradition to both scientific and aesthetic points of view, stimulated my first conscious affection for plant forms. Although memories from childhood of a field of "blue bottles" near my grandparents' garden, and flashbacks to playing among phlox taller than I, helped lay the foundation for much that was to follow, the moment of truth came when I desired that book from The Netherlands on display in the bookstore window.

Dramatic changes occurred in Northern Europe during the 17th and the 18th centuries — shifts in economics and power and philosophy — that led to the recording of plants, everyday utensils, imported collectibles, and the lavish flower paintings by the Dutch and Flemish Masters. This period produced what is now considered the beginning of western flower arranging.

The Church and nobility's power diminished; they were no longer the only patrons of the arts. The growing economic prowess of the Dutch traders and merchants was a catalyst for their movement into government and changes in social trends. The Protestant Reformation's influence was particularly felt by artists in Holland, greatly reducing the need for mystical and religious paintings. The scientific community's interest in plants, and its hope to gain a clearer understanding of God's creation by systematizing natural phenomenon, impelled doctors and botanists to explore plants in their natural habitat. Expeditions to new lands and realistic pictorial renderings of the plants resulted.

It is from these plant studies, the keen interest in gardening by rich and poor alike, the desire of the new bourgeois to have their possessions and flowers recorded, and



Cottage Tulip Marshal Haig from *Flowers in Color*, The Netherlands: S. Gouda Quint, D. Brouwer En Zoon (First American Edition) 1948



The backs of floral heads and leaves were emphasized in Dutch and Flemish paintings after 1609.

the change away from religious symbolism in art, that still-life painting and the great flower pieces evolved.

The importance of the precious tulip is demonstrated in these floral paintings by their exaggerated size in relation to the other flowers in the compositions. The Philadelphia Museum of Art offers a fine example in its collections: "Bouquet Of Flowers," painted in oil on a smooth copper plate by Christoffel van den Berghe, 1617, reveals his devotion to the tulip. Last fall, while on a tour of 'Flowers in Art' at the Museum, I learned that it was the German artists who first individualized a bouquet in paintings, but the Dutch Masters soon followed and perfected this genre. "Flowers in a Vase" (see page 5), by Jacob Marrel, 1647, attests to the 'realism' of representation with a prejudice for tulips.

Early floral paintings emphasized the beauty of individual flowers and objects as illustrated in "Large Bouquet In A Wan-Li Vase On A Gilt Metal Box" (see page 3), by Ambrosius Bosschaert the Elder, 1609. Later paintings included overlapping of elements, tonal qualities to unify the design, twisting and curving stems, and a view of the backs of floral heads and leaves — all arching and cascading from wide-mouth urns.

*A stunning reality is that these paintings were not of actual flower arrangements!*

These compositions were *idealized* combinations of flowers that bloomed at various times during spring and summer. In the early paintings, in particular, the container types and sizes with narrow openings could not have supported the height and amount of the large blossoms. I find it interesting that the Dutch and Flemish, known for realism, classifications, and categorizing, were charmed by the contrived still-life paintings and floral pieces: the objects from different sources, and flowers rendered at their peak of perfection at various times during the growing season.





At left: "Flowers in a Vase" was painted by the German artist Jacob Morrel in 1647 in the Flemish style. Note exaggeration of tulip size and placement of accessories at base.

Bottom: The author's modern interpretation of Dutch and Flemish Masters' paintings. Page 6 outlines how to construct one. Fruits and other accessories are lavishly prescribed in the 17th century paintings.

### *how to create a flower arrangement in the Dutch and Flemish style*

A study of the Dutch Masters' paintings is important for clues of the characteristics of this style, plant materials used, container types, accessories and backgrounds.

#### **Arrangement Characteristics**

- opulent massed designs: oval, pyramidal, to soft triangle
- a profusion of flowers
- vibrant color harmony
- numerous accessories and/or fruits
- globular flowers predominate
- curved stems
- backs of flowers and leaves may be exposed
- flowers and fruits cascade over edge of container

#### **Flowers**

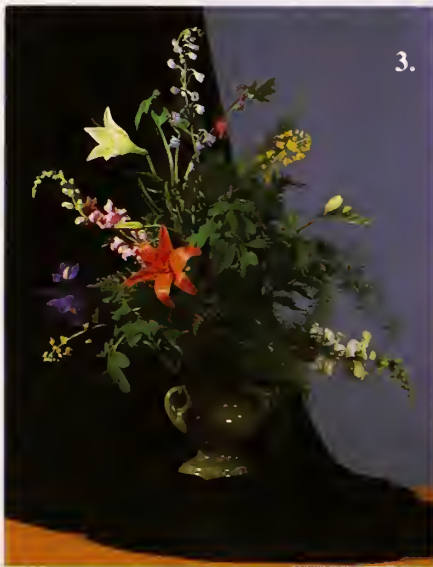
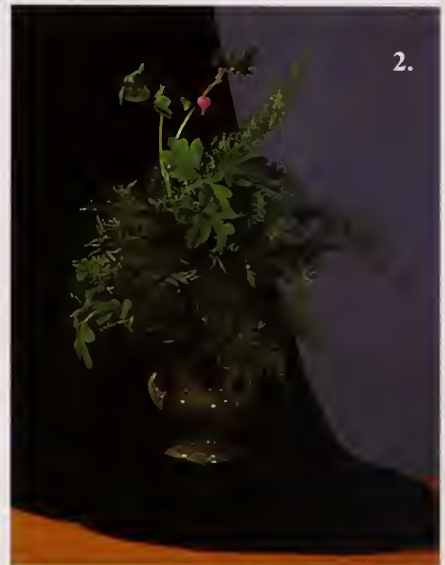
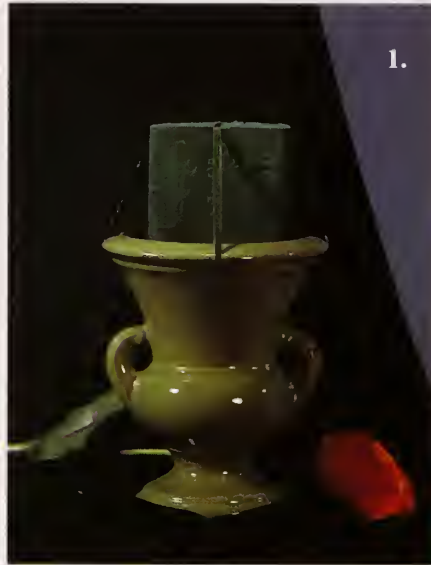
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|-------------------------------|----------------------|
| • African marigold            | • iris               |
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| • bleeding heart              | • lily               |
| • cactus                      | • lily of the valley |
| • calendula                   | • morning glory      |
| • carnation                   | • narcissus          |
| • chrysanthemum               | • orange blossom     |
| • cockscomb                   | • poppy              |
| • columbine                   | • primrose           |
| • crown imperial              | • primula            |
| • cyclamen                    | • ranunculus         |
| • delphinium                  | • rose               |
| • double peony                | • scilla             |
| • dried flowers, leaves, etc. | • snapdragons        |
| • foliage                     | • snowdrop           |
| • fritillaria                 | • trumpet daffodil   |
| • hollyhock                   | • tulip              |
| • hyacinth                    | • viola . . .        |
|                               | many more!           |

*continued*





# *Create Your Own Arrangement in Style of Dutch and Flemish Masters.*



6

1. Secure a block of floral foam to the container with waterproof tape. 2. Insert the foliage into the sides and top of the block of floral foam to create a foundation for the arrangement. Curved stemmed materials establish the pattern and rhythm essential for this style right from the start. 3. Flowers, radiating beyond the foliage foundation, establish the overall size of the composition, create a graceful silhouette, and continue the mood. 4. 'Space' flowers within the perimeter of the design, selecting one flower type, to be followed by another type, etc. 5. Place additional flowers at various levels to enhance third dimension and to achieve the quality of abundance. See page 5 for finished arrangement.

## **Accessories**

- acorns and chestnuts
- bird's nest and eggs
- bees, butterflies and other insects
- glass and goblets
- grapes and other fruit
- oysters, snails, and reptiles
- pewter plates and utensils
- porcelain objects
- stuffed birds
- wooden spoons, etc.

## **Containers**

- baskets
- glass bowls and vases
- pewter jars
- bronze ewer
- metal utensils
- pottery and terra-cotta urns
- alabaster and delft containers
- silver bowls

## **Backgrounds**

- brocade
- damask
- dark paneled walls
- marble
- tapestry
- velvet

The flower arranger's challenge is different from that of the Dutch Masters. For example, special consideration must be given the mechanics to support the plant materials within an arrangement. The cut ends of the stems must receive a continuous supply of moisture. The curvature of various stems is inherent, and the angle of the flower heads is a gift of nature as well. The final outcome of the arrangement is affected by the origin of the stems within the design, the mechanics used, and how the arranger responds to the natural qualities of the materials in conjunction with the qualities of the particular style desired.

The arching and cascading qualities of the Dutch and Flemish style is dependent



on the inherent qualities of the flowers and the mechanics used. Wet floral foam (Oasis), extending well above the lip of the container, supplies moisture to the flowers and foliage, and gives the arranger *control*. Flower heads can cascade deeply downward below the origin of the cut ends of the stems and still receive the necessary moisture. The stems can be inserted anywhere along the sides and top of the block of floral foam. The freedom experienced by not requiring all stems to emerge from one place within the container, and not depending on radically curved stems to achieve an overflowing abundance, is well worth the additional waterings needed during the life of the arrangement due to the exaggerated elevation of the block of foam.

### *preparing the mechanics*

Preparing the mechanics before arranging is rather simple. Floral foam is offered in a variety of types. 'Springtime' is the best type to use for soft-stemmed flowers such as tulips, iris, daffodils, expected in the Dutch and Flemish style. The block of foam is easily cut to size with a knife before or after soaking it in water for approximately 15 minutes. It is important to leave space around the sides of the block so a reservoir of water is available for the plant materials at all times. (Watering daily: 1/3 to 1/2 cup gently poured into the heart of the design to keep the top of the block moistened.) The wet Oasis is secured to the container with special waterproof tape to prevent wobbling or shifting of the mechanics while arranging or transporting (see page 6). Clean and dry the container's surface so the tape will adhere. The floral foam and waterproof tape are available at flower shops, craft shops, and garden centers.

After the mechanics are in place, soften the blatant form of the floral foam with foliage. Baker fern, sprengeri, and bleeding heart were selected to create the foundation of the arrangement pictured on page 6. Their curving qualities set the tone for the design to follow — creating structure and volume. (Baker fern and sprengeri are readily available commercially throughout

the year.)

The Dutch and Flemish style is unusual in the number of varieties of flowers expected in the compositions. Although my updated version includes 15, as many as 25 have been noted in some of the great flower paintings of the 17th and 18th centuries. Rather than the usual practice of repeating several types of flowers numerous times, and intermingling them throughout the design, the Dutch and Flemish style may include only one of a type, perhaps two of another, etc., placed here and there. These qualities help establish the process for flower placement.

Begin by placing flower forms so they extend beyond the perimeter of the foliage framework, one type flower followed by another. The curves of the spiked forms create a graceful silhouette. (Angle the flower stems to create the illusion that the flowers *do* radiate from the heart of the design.)

Continue to 'space' the flowers in the area within the perimeter, selecting one type flower, then another. Gradually increase the density of the placement, and overlap the elements to create third dimension. (Short-stemmed flowers need not pose a problem should the arranger want to include them in large compositions. Aquapics, plastic vials filled with water and capped with a perforated rubber top to accommodate flower stems, can be attached to wooden dowels (florist picks), or heavy stems of desired length with tape. These mechanics can be purchased at flower shops.)

Adding fruit or other accessories under the composition, not only helps to balance the exaggerated size of the tulips or other large flowers as seen at the top of many of the contrived bouquets in paintings of Northern Europe, but helps today's arranger expand and experience the possibilities for unity from a variety of sources/categories.

A note of caution about tulips. This beloved flower of The Netherlands opens quickly in bright sunlight and when exposed to heat. Apply unbeaten egg whites with a small artist's brush or with the

fingers, between the petals where they overlap, to keep them at your desired state of openness in your arrangement. I dare them to 'blast.' As you create your own Dutch and Flemish arrangement, or see these opulent compositions at the Philadelphia Flower Show, may you feel a kinship with those botanists, merchants, and artists of long ago.

### **For Reading and Research**

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Arbutus in full bloom. Shell pink bells of fragrance, spring's earliest perfume.

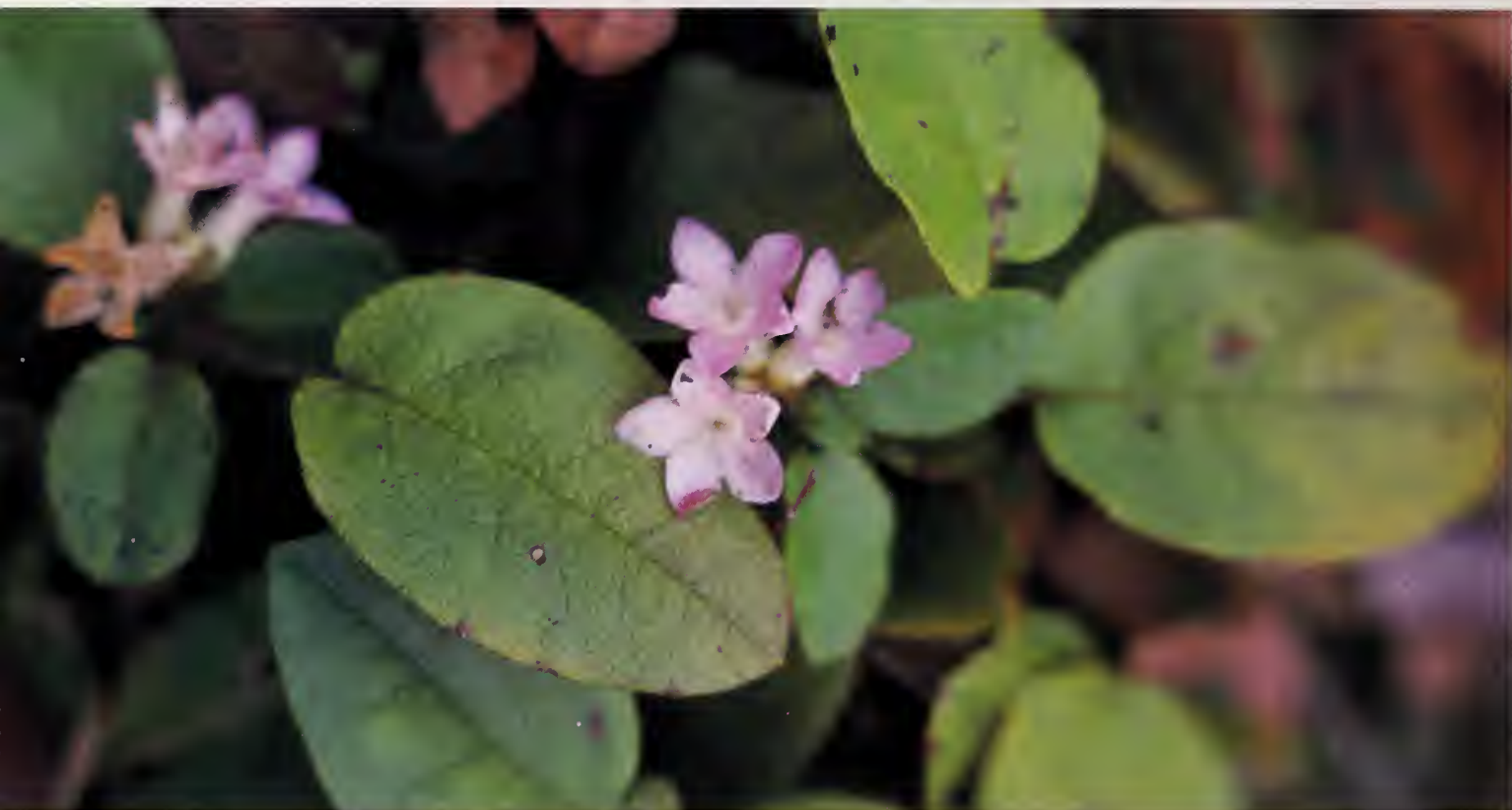


photo by Irmgard Myers

## Propagating Trailing Arbutus from Cuttings

by Lorraine Kiefer

8 **T**o some people mayflower or trailing arbutus is a fragrant herald of spring, and to others it is a delicate jewel of spring beckoning them to search for it.

Classified as *Epigaea repens* (a clue to its low-spreading habit), the leathery little evergreen is part of the heath family.

Folk legends speak of the Pilgrims naming this plant the mayflower. In her book, *How to Know the Wild Flowers*, Mrs. William Starr Dana quotes the American poet Whittier, who wrote the poem *The Mayflowers*: "The trailing arbutus or Mayflower grows abundantly in the vicinity of Plymouth, and was the first flower to greet the Pilgrims after their fearful winter."

I have always thought of trailing arbutus as an integral part of the Jersey Pine Barren flora. When my mother and dad were growing up in rural Franklin Township, in southern Gloucester (N.J.), many of the school children would compete to be the

first to find the arbutus as a kind of rite of spring. Some teachers would even take their classes to a nearby woods to collect a sprig of the fragrant pink arbutus.

Over 35 years ago, my 4-H leader always took our club to smell the arbutus on a mellow spring day. It grew abundantly along with pipsissewa, teaberry, blueberry, ground pine and lady slipper. The carpet-like patches often were more than a foot wide, hidden by oak leaves or pine needles. They grew in moist, humus-covered sand that made up the very acidic mossy forest floor.

Today I still find arbutus, but I must hunt for it. It is fairly plentiful in areas farther south and west of here. On our son's farm in Greenwich, N.J., near the mouth of the Delaware Bay, his woods abound with wildflowers, arbutus being no exception.

### stripped

Although much of the arbutus gathered

over the years has been picked with love, it has been stripped from the woods. Of course, many of the patches were in woodlands that gave way to the spread of the developers. School children no longer seek arbutus as a sign of spring, nor do they sell it on city street corners as depicted in the book, *Shadow in the Pines*, by New Jersey author, Stephen Meader. Perhaps now the greatest danger of losing this plant is to progress.

Collectors and wildflower enthusiasts find this plant to be challenging. Senator George Aiken, a wildflower expert, warns us in his book, *Pioneering with Wildflowers*, that arbutus is difficult, almost impossible, to transplant. The only time that moving it from the woods is justified is when a bulldozer is about to invade. (See "Rescue," in *Green Scene*, September, 1974, by Janet Gyer.)

Arbutus can be found growing both in part sun and in shade, but always in a moist,





but well-drained sandy soil, laced with woodland humus. Although I have tried several times to transplant it to different sites on my property, it rarely thrives, but rather hangs on for a few years, finally fading away. Senator Aiken suggests in his book that to succeed in growing trailing arbutus, it is important to use plants that have either been propagated from seed or cuttings. He also stresses that they must be kept moist, especially the first year or so.

***a safe, successful propagating method***

Only recently my husband Ted and I accidentally came across a way to propagate arbutus in a manner that appears to be safe and successful.

For many years we have carried wildflowers in our family nursery. Most of these were grown from roots or small plants that we obtained from wholesalers. Usually we planted them one year and sold them the next. Although I tried always to buy stock from nurseries that had cultivated rather than collected plants, sometimes that was not possible. Unfortunately, the arbutus stock I was buying from Tennessee looked as though it had been lifted from the woods. Nonetheless, we potted up 25 plants most years. They usually spent the spring and summer in a shaded, well-irrigated area in the nursery. In the winter, we put the pots in an unheated hoop house covered with white plastic.

About half of the plants would emerge in the spring with a verdant vigor that signaled they had conquered the winter. I began to notice that these vigorous green leaves, tender and new, seemed to emerge from the end of the stems of the older plants. Although the "mother" plant or root mass usually was dead, the tips of the plant, which were last year's new growth, had rooted in our perfect conditions (even our irrigation water is acidic).

After observing this for a few years, I was motivated to experiment with a few cuttings. Ted had made a mist bed where he roots many of the plants he grows for the nursery. The propagation bed is about 3 ft. by 20 ft. A layer of very sharp sand covers a layer of Pro Mix. An intermittent spray keeps the area moist with an automatic system that sprays a gentle mist whenever the indicator becomes dry, which happens every few minutes on a sunny, dry day in summer. It was here that we tried our first cuttings of arbutus.

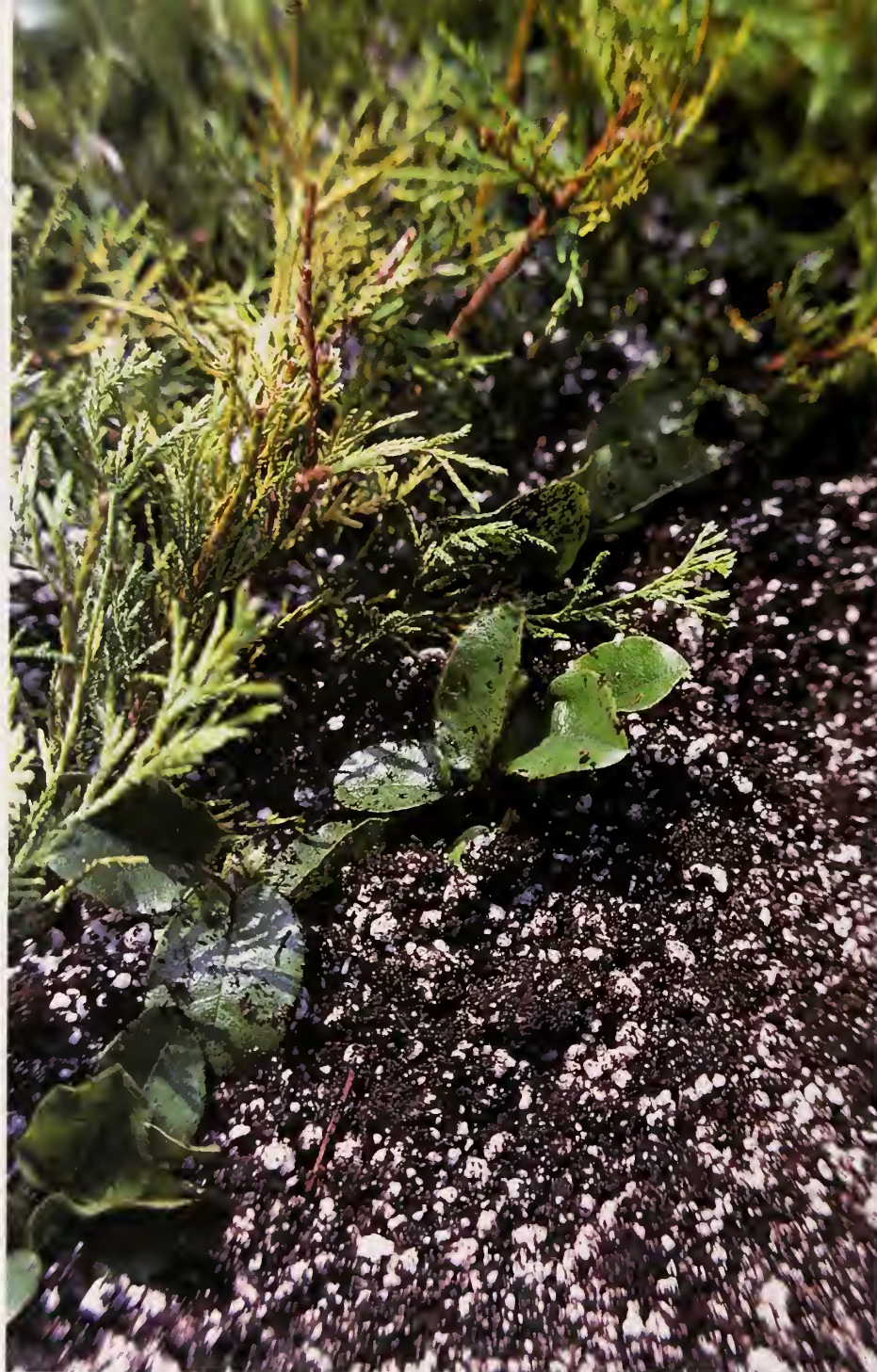
Although I had read another later article by Janet and John Gyer in the May 1983

*continued*



Cuttings are taken in late June when new growth matures. Remove leaves from the bottom of the stem. Dip cuttings in rooting powder to help stimulate good roots before putting in the rooting bed.





The little arbutus cuttings are placed in a row next to evergreen cuttings in the misting bed.

*Green Scene*, I never really considered propagating arbutus. In "Collecting Trailing Arbutus from Seeds," the Gyers give a great deal of information about the plant, with detailed instructions on collecting the seeds. I remember thinking how much patience the whole process must take; yet I saved the article. My appetite had been whetted even more to grow this plant in my garden.

It wasn't until after I noticed the accidental rooting of the arbutus that I also decided to accept the challenge of propagating arbutus.

Since I needed cuttings to start with, I asked my friend Irmgard Myers for some

from the great patches of arbutus along the mossy paths through her wooded acres. The terrain also has pipsissewa, teaberry, blueberries, ground pine, lady slippers, and of course the indicator of an acidic soil, lush beds of moss. Sandy and acidic, the natural decayed leaves and a swamp in the lower areas account for the cool moisture in the sandy soil found in the Myers's woods.

The cuttings were made in late June as the new growth began to harden. We dipped them in rooting medium and placed them in the sand-covered mist bed. By the end of summer, they had rooted. We tossed evergreen boughs over them for the winter.

In the spring we potted them up in Pro Mix, which we now use for all our perennials, herbs, and houseplants.

The plants in our shade garden grew well, as did the many second-year plants in one-gallon containers.

We know that many of the wildflowers started in nurseries from seed often survive better than collected plants. Those that are propagated by cuttings and grown in a sterile soil also adapt well. So far difficult-to-propagate plants, such as sweet bay, lion's ear, hollies, *Franklinia*, *Magnolia*, and others, have all responded to the mist bed and rooted during the hot, humid days of summer.

While it will take some time to get the rooted cuttings to the size of a mat of arbutus in the wild, if just a few respond successfully and flourish under the cedar or pine in the shady garden, I will feel that the spring rite of the trailing arbutus continues.

### Suggested Readings

*How to Know the Wildflowers* by Mrs. William Starr Dana. This often-revised book was first published by Charles Scribner's Sons in 1893. Dover revised it in 1963. It was revised again in 1989 by Houghton Mifflin, this time with some lovely colored pages. The book is delightful with its literary references.

*Pioneering with Wildflowers*, by George D. Aiken (Senator), Prentice-Hall, Inc., Englewood Cliffs, N.J., Third edition, 1968.

"Mayflowers: Collecting Trailing Arbutus from Seed," Janet and John Gyer, *Green Scene*, May, 1983.

"Rescue: The Aim Is Rescue, Not Just Removal," Janet O. Gyer, *Green Scene*, September, 1974.

Lorraine and Ted Kiefer operate Triple Oaks Nursery and Florist in Franklinville, N.J. Both lecture and teach herb and landscape courses through Gloucester County College at the nursery. Lorraine writes a weekly column for three papers and a monthly herb column for *Jersey Women* magazine. She is a frequent contributor to *Green Scene*, and wrote a chapter for the Brooklyn Botanic Garden's recently issued *Gardening for Fragrance Handbook*. The Kiefers also do a weekly call-in garden show every Monday night on WSNJ from March through December (107.7 FM, 7:35 pm).



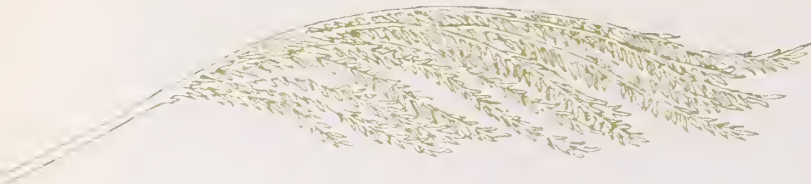
# THE ORNAMENTAL GRASS MOVEMENT— *It's Spreading Like a Prairie Fire*

 by Charles Fenyvesi



*Miscanthus transmarisonensis* flowers in late August reaching full flower by mid-September. It opens a bronze color and becomes more silver as inflorescence dries.





## THE ORNAMENTAL GRASS MOVEMENT by Charles Fenyes

*Esthete and entrepreneur, international adventurer and botanical scholar, Kurt Bluemel is a founding father of the ornamental grass movement in the United States. The movement is without structure, and it is not organized by anyone. There is no public relations campaign behind it — not even a popular manual, which would explain where, how and, most important, why to plant the more than 100 ornamental grass varieties in wide use these days. Instead, the movement is spontaneous and experimental, and over the past few years its spread across cities and suburbs, roadsides and containers has been nothing short of phenomenal. Even though the metaphor is patently mixed, a comparison with a prairie fire is appropriate.*

It is fair to assume that by now most gardeners throughout the country have learned to identify the critical difference between lawn grasses and ornamental grasses: while the former are meant to be walked on and need to be mowed often, the latter are to be allowed to grow to their full height and should be cut back once a year, in early spring, down to the ground, to permit fresh shoots to emerge.

This is a Cinderella story. Ignored for centuries in East and West as coarse, weedy growth unworthy to include in the cultivated garden, now ornamental grasses such as *miscanthus* and *pennisetum* are planted by the front steps of elegant mansions, as screens in new suburban subdivisions and as dominant features in the best-designed parks. Homeowners and landscape designers alike have discovered that sheaves of slender yet sturdy stalks and their ethereal plumes complement both contemporary and traditional homes. They loosen up the hard-edged modern angles and add graceful, natural curves to every other style.

The common names of individual varieties, though not yet well known, can evoke powerful associations: moor grass, sea oats, leatherleaf sedge, giant reed, snowy wood-rush, foxtail barley, weeping love grass. The adjectives Chinese or Japanese are often attached to the name of a species, indicating geographical origin. Other descriptive phrases used are fountain, feather, cord, ribbon, velvet and silk, suggesting shapes and textures.

Ornamental grasses are as soft as puffs of smoke, yet they are as tough as crab-grass. ("Glorious" and "indestructible" are the key words Bluemel and other aficionados apply to them.) Their height varies from six inches to 20 feet, and most of them are winter hardy as far north as Zone 5. Their stalks and leaves may be striped or

speckled, banded or brindled, and they have inflorescences instead of flowers. During spring and summer, the colors may be green, blue, silver, white, yellow, pink, purple or even ruby — or combinations of them — and they turn subtle shades of gold in the fall or winter.

Most of them spread moderately, as their roots or rhizomes, stolons or corms make their way through almost any kind of soil, and their clumps invariably thicken. Usually, they are propagated by division — which is as easy as dividing daylilies or hostas — because the seeds seldom come true. But dividing plants can be tedious, and not all species can reproduce fast enough and abundantly enough, which until recently was one factor slowing down the proliferation of ornamental grasses across the country. For several years after 1964, when Bluemel started his business, (Kurt Bluemel Inc., in Baldwin, Md.), he simply did not have enough clumps to satisfy demand. But now that he has expanded his operation and other nurseries also have started growing ornamental grasses, the supply is adequate.

### quake and quiver

One reason for Bluemel's fascination with ornamental grasses has to do with their changeability. A restless spirit himself, Bluemel is in love with their perpetual motion: they quake and quiver in the gentlest breeze; they arch gracefully as they sway from one side to the other, with their stalks lining up along parallel lines; they bend down to the ground and spring back countless times without any danger of breaking. They are almost never still; but when they are, it is eerie, and there is tension in the air because that stillness is likely to be the one before the storm.

Bluemel also appreciates how ornamental grasses change from season to season. He describes lyrically their tender green in early spring, the appearance of stronger

colors in the summer, and the nearly miraculous bursting forth of the inflorescences. He even welcomes winter because "then the snow presses the stalks to the ground" or lets them "persist upright through snowdrifts, showing a dramatic contrast in colors."

In some ways, ornamental grasses are more subtle and versatile than plants that peak when they bloom. Using ornamental grasses in the garden opens up a new world of design options. Any of the dozens of varieties of *miscanthus* or *calamagrostis* can form effective and lovely screens around a property or hide a garage or trash cans. They, as well as such Bluemel favorites as the graybeard or frost grass (*Spodiopogon sibiricus*) and the purple moor grass (*Molinia caerulea* 'Variegata'), will do beautifully as specimens in the middle of a lawn or as a backdrop to a flower garden. A mass of pampas grass (*Cortaderia selloana pumila*) from Argentina or its northern cousin, plume grass (*Erianthus ravennae*) is capable of producing high drama — what is called special effects in the movies.

Bluemel is intrigued by the possibilities of a landscape blending perennial flowers with ornamental grasses, which qualifies as the first revolutionary innovation in the Victorian ideal of a mixed border. "Ornamental grasses are part of the perennial world," he says — he has not bothered with annual grasses — and he has been en-

At top: By a poolside, the tall plumes of *Miscanthus sinensis* 'Cabaret' (tallest grass on right) suggest the untamed savannah, while another, *M. s.* 'Morning Light' looks as civilized as a sheaf of wheat in the foreground near pool. *Pennisetum alopecuroides* explodes into a golden mound next to the chair.

Bottom left: The bright red blades of *Imperata* x 'Red Baron' attracts a lot of attention among gardeners.

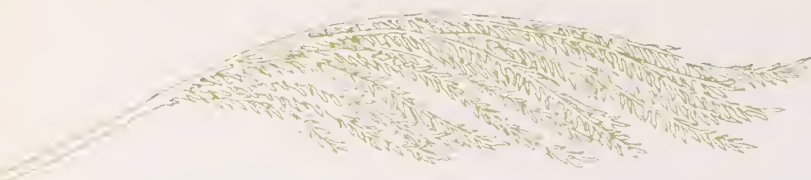
Bottom right: The giant tuft of *Helictotrichon sempervirens* provides a handsome backdrop for flowering plants.

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*In 1989, he says he clocked 800 miles travelling by taxi through Siberia, in search of grasses as well as rare orchids and irises.*

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couraging gardeners and landscape designers to experiment. "We don't know what we can achieve unless we try it," he says. He is angry with landscapers who go for the safe, true-and-true solutions and will not go beyond setting down a clump of ornamental grass here and there, usually in isolation. He calls for integrating different ornamental grasses in a total design for perennials of all types, but he finds landscape designers often reluctant and afraid of making mistakes.

He has not been able to make much headway with a low, swirling sedge he picked up in New Zealand. Its blades are narrow and long, looking like a little boy's hair that hasn't been washed or combed for a long time, and the color is brownish. "Everyone thinks green is great," he says, "but why not use brown? The problem is that with brown, you have to think a bit. It takes some effort to find a niche for it."

As a landscape designer — he says with a grimace that he has not bothered to pick up a landscape architect's diploma — he searches for the natural look. His blue eyes light up when a visitor asks if the bluestone boulders the size of a sheep have always been jutting out of the ground around his office building in Baldwin, Md. "No, no, no," he says, with a broad smile. "I put the rocks there. But I wanted them to look as if they had always been there."

The sedges, ground covers, dwarf pines and tall ornamental grasses are tucked in among the boulders. As one climbs the stone steps — the same color as the boulders, the hue of an overcast sky — the landscape changes, and the different elevations and plants do their trick. It is a small hill that looks a lot larger because of the dozens of small mounds, dells and valleys. At the moment, the plants are sparse, having been in place only for a year or two, and the effect is that of a Mediterranean landscape. In a few years, the clumps will thicken and spread out, and they might well suggest a South Pacific island.

In his garden around his home, which also serves as the equivalent of a store window for his nursery and landscaping business, he changes the layout every year.

He tries out different sites for elements such as the ruby-red blades of the Japanese blood grass (*Imperata* x 'Red Baron'), which he calls "gorgeous, particularly when viewed against a sunset," and he looks for a placement carrying maximum impact for the coarse leaves of the gangly giant reed (*Arundo donax*), which easily reaches a height of 10 feet.

### ground covers

Ornamental grasses as ground cover represent another experimental area. Bluemel recommends *Festuca*, also known as fescue, which forms a dense, symmetrical mound of fairly stiff, porcupine quill-like needles issuing from a central point. In addition to the well-known *F. glauca*, which comes in a dreamy azure, he now offers different shades of blue as well as green.

This season Bluemel plans to introduce a bamboo list, with some 150 varieties of this much-appreciated grass of the Orient. He says that one-fourth of that number is guaranteed *not* to spread, which is good news for those who have planted this persistent and invasive plant, only to find out that its march across the garden and into the neighbor's is virtually unstoppable, prompting angry demands to get rid of it and even lawsuits. Bluemel also has some low bamboos that he says will work as ground cover.

A painter in his youth in Europe (he was born in 1933 in Sudetenland and was expelled as an ethnic German after the area became Czechoslovakia again following World War II), Bluemel later studied and pursued botany in West Germany and Switzerland. He turned into a builder of a business empire in the New World. After his arrival in the United States in 1960, he worked in a Maryland nursery for four years, then he started his own business, specializing in ornamental grasses.

Bluemel calls attention to the abstract shapes of ornamental grasses: their stalks and leaves often appear in unexpected and strange configurations, as if designed by a computer or a nonrepresentational artist.

Unlike most other nurserymen who either prefer handling plants or dealing with the organizational details of business, Bluemel enjoys doing both. As he takes around a visitor, he notes a group of plants that haven't been watered and another too

sensitive to cold to stand near a door. But he also listens attentively to what his customers say about their likes and dislikes, and he spends time with his staff, making sure that even those whose job is to pack plants for shipment know each plant by its Latin name. He has 50 employees. As for his business, he will not disclose figures but says he has been able to double the dollar value of his shipments every year for several years now.

Asked how he defines himself, Bluemel, a chatty extrovert, is uncharacteristically quiet for minutes. "I don't want to be typecast as only a grass-grower or a plantsman," he finally says. "I am also a landscape designer. And I am an entrepreneur. Running my business well is very important to me."

Muscular and compact, Bluemel moves about as briskly as a man half his 57 years. He has a passion for travel to distant places and prefers roughing it. In 1989, he says he clocked 800 miles travelling by taxi through Siberia, in search of grasses as well as rare orchids and irises. Moving on the Central Asia, he looked for lilies such as *Eremurus* and different alliums. For four months, he walked through areas that have not been open to foreigners for most of this century: uninhabited mountains and valleys in Kazakhstan and Kirghizistan, as well as the Chinese side of Central Asia. In one place, near Lake Baikal in eastern Siberia, he collected as many as 10,000 bergenias. He lost some 20 pounds, subsisting on raisins and dried apricots.

His ambition is to visit in the next 10 years all the great grass-growing areas of the world, from the Pyrenees to Yunnan,

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At left: Kurt Bluemel in Baldwin, Maryland, behind a stand of *Miscanthus sinensis* 'Morning Light.'

Top right: Bluemel atop the Hissar Range in the Pamir Mountains of Soviet Central Asia in July 1989. Here he found *Paraquilegia caespitosa*.

Bottom right: Bluemel pauses during a plant expedition near 12,000 feet at the Anzop Pass in Soviet Central Asia. He was looking for alpine grasses, high plain grasses and perennials. (July 1989.)

*continued*



## From Home to Central Asia . . . Hunting for New Plants

photos supplied by Kurt Bluemel, Inc.







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from Patagonia to Anatolia. Like the botanical explorers of the 19th century, he plans to collect thousands of specimens of ornamental grasses and perennial flowers and then select, and perhaps hybridize, the most promising among them.

"Kurt makes it possible for us landscape architects to design gardens with ornamental grasses," says James van Sweden of Oehme, van Sweden & Associates, who has used Bleumel's plants for many of his landscape projects, including the much-acclaimed Federal Reserve Garden and Pershing Plaza in Washington, D.C. "He provides the paints and the palette for those of us who love ornamental grasses."

But what is the appeal of ornamental grasses? Why have they caught on so fast, achieving popularity among so many different kinds of gardeners?

The luxuriant, tall grasses and their great plumes take us back into a deep past when our ancestors roamed the savannahs and

prairies, steppes and pampas. While trees suggest the primeval forest, dark and forbidding, and flowering plants represent the refinements of civilization, ornamental grasses take us back to the sunny tranquility of the open meadows where our tribal ancestors gathered and hunted.

The next time you sit on the ground next to a big stand of giant feathergrass, side oats grama or golden hakonechloa, listen to the rustling stalks, look at the plumes fluttering across the sky and think of zebras and kangaroos, bison and mammoths.

Charles Fenyesi has been the garden columnist for the *Washington Post* for 10 years. He also writes a political column for *US News & World Report* called *Washington Whispers*. His recently published book *When The World Was Whole*, (Viking, 1990), which tells about his family's attachment to the land over three centuries, has been receiving excellent reviews in the national press.

### Reading About Ornamental Grasses

*Bold Romantic Gardens; New World Landscapes of Oehme and van Sweden.* Oehme and van Sweden with Susan Rademacher Frey, Acropolis Books Ltd., Reston, Va., 1990.

*Ornamental Grass Gardening; Design Ideas, Functions and Effects.* Thomas A. Reinhardt, H.P. Books, Los Angeles, 1989.

*Ornamental Grasses; the Amber Wave.* Carole Ottesen, McGraw-Hill, New York, 1989.

*Ornamental Grasses and Grass-Like Plants.* A.J. Oakes, Van Nostrand Reinhold, New York, 1990.

These books are all available in the PHS Library.

A booklet *Ornamental Grasses at Longwood* is a guide to the performance and landscape usefulness of 70 of the best ornamental grasses that can be grown in the Delaware Valley. The book can be purchased at Longwood's Museum Shop or can be shipped (in the Continental U.S.) for \$2.12 plus \$2.00 shipping and handling.

Longwood Gardens Museum Shop  
P.O. Box 501  
Kennett Square, PA 19348-0501



# FARMER JACK GROWS HIS OWN TO GET REAL FOOD FOR REAL TASTE

 by Judy Mathe Foley

photo by Neil Benson



A December salad of greens harvested from Jack McDavid's third floor "farm" at the Firehouse in the center of Philadelphia. Red leaf lettuce is center stage, surrounded by homemade goat cheese and a cauliflower mushroom for garnish.



## FARMER JACK GROWS HIS OWN TO GET REAL FOOD FOR R

*A former chef for some of Philadelphia's best French restaurants, Jack McDavid now caters to the strictly American palate at the Down Home Diner and Jack's Firehouse. He grows his lettuce on his third floor in the middle of the city, and gets 90% of his produce from local farmers.*

At your hearts out, all you fancy chefs who covet Pennsylvania hickory nuts. Jack McDavid got last year's whole crop. A warm March and a cold snap last April conspired to make hickory nuts scarce. But McDavid found the "only tree on the whole East Coast that had hickory nuts on it." The nuts have long since been shelled and used in sauces for baby salmon, for candy, or as sugar-coated goodies.

Hickory nuts are only one locally-grown product McDavid uses in his restaurants — where he also smokes his own meat and fish, bakes his own bread, and churns his own butter — and for the last year, has been growing his own lettuce for salads on his own roof.

McDavid grew up on a farm his parents still own and work in the Appalachian mountains of Virginia. In his Down Home Diner at Philadelphia's Reading Terminal Market and Jack's Firehouse in the Fairmount section, he comes as close as is possible in the heart of the city to recreating a farm life for himself and farm cooking for his customers. "We don't grind our own coffee, or milk our own cows," but McDavid depends on local farmers for 90% of his vegetables, most of them organically grown. For produce, he's almost completely Pennsylvania self-sufficient, except for a few wild mushrooms he buys from the western states. "And we've had a problem with growing good tomatoes in January."

McDavid says most restaurant owners pick up the phone and call the produce company. The produce company goes to a warehouse to pick up vegetables that come from some far-away port. "And they tell me that's fresh. But that didn't jibe for me. My mama could cook, and she'd get a pot of boiling water on the stove before she went out to the garden to pick the corn. Only if company was coming would she relent and kill a chicken a day early.

### **\$20 a month on groceries**

"We picked watermelon out of our garden and brought it in and ate it. Sometimes that watermelon wasn't perfect," McDavid says. "But when it was, heaven was there."

McDavid's parents spent only \$20 a month on groceries to feed seven children, grandparents and other assorted relatives. McDavid, who often wears dungaree bib overalls over a white chef's coat, has much larger grocery bills than his mother's — \$500,000 for produce last year — but, otherwise, he follows her culinary lead of fresh-is-best.

A "hot shot chef" in Washington restaurants, McDavid came to Philadelphia eight years ago and worked as chef at Le Bec-Fin and Le Panetiere. When he wanted something special, he'd go to the Reading Terminal Market. "The farmers came in there with lettuce and spinach that still had dirt on it, and sometimes the chickens even had feathers. To me, that was the real thing.

"There was an old man there then. His name was Abraham Stoltzfus. He was as contrary as any man you ever met and he treated me like I was a piece of fly on the wall. But he had some of the freshest and most beautiful herbs that a cook could ever buy."

McDavid's relationship with Lancaster County farmers grew when he opened the Down Home Diner four years ago this month. "That first year I bought lettuce from Lancaster County farmers. The first month was fine. The second month was fine — I didn't do much business. Then the third month, the Diner got very popular and they couldn't supply me with enough lettuce."

By that time he had already developed friendships by spending 12- and 14-hour days with Amish farmers in Lancaster County. "They listened to me mainly because I was a dirt farmer, but they also listened because I spent money," says

*continued*







photos by Neil Benson



At left: Jack's Firehouse restaurant in the Fairmount section of Philadelphia. Salad greens are grown on the third floor in winter and on the roof in summer.

(Above) Farmer McDavid checks the lettuce harvests. (Bottom) Willy Irving helps; the staff lugs the water up three flights of steep steps. This crop went into a salad on its way to New York for a dinner for 60 people at the James Beard Foundation. The fluorescent lights are raised as the lettuce grows to about 3 inches tall and is harvested with scissors.



McDavid. "The first thing you want to do to catch a farmer's attention is the same thing you want to do to catch a car dealer's attention. There's one color that everybody understands — a universal language. I'd pay cash money for my products."

"For me they took hedge clippers and went out and mowed down the lettuce, packed it in boxes and shipped it," says McDavid, but gradually his conversations with the Amish turned to supplying other restaurants, too. "It was okay to send me dirty stuff because I know how to wash it, but to do it for other restaurants, the vegetables had to be washed and manicured. We set up places to process the lettuce, to clean it and pack it. And then we started talking about herbs, berries, and other fruit."

"We talked about marketing — about staggering the growing season so that instead of everybody having tomatoes at the same time, one person has tomatoes this month, next month somebody else has them."

### *growing lettuce upstairs*

Most of Jack McDavid's lettuce still comes from Lancaster County, but since last March, he's been growing his own. Regular harvests from lettuce grown under lights on the third floor of the Firehouse in the winter — and on the roof in the summer — provide salad greens. Firehouse customers consumed 70 pounds last Thanksgiving weekend.

From about 4 inches of dirt on 14 plastic-lined 4' x 10' tables, McDavid can almost supply the Firehouse with the eight kinds of greens he grows: black seed Simpson, salad bowl, oak leaf, red leaf, and red sails lettuce, and endive, arrugula, and spinach. And the third floor's "north 40" is being expanded with more sections of light.

Fluorescent lights hung above the tables are raised as the lettuce matures. The lettuce is harvested when it's about 3 inches high. After a harvest, McDavid adds more cow manure to the peat in the beds and sows the next crop.

"We try to have batches of each kind coming up all the time. We get two cuttings off each bed, and it takes about four to five weeks to come to maturity," says McDavid, who adds that everybody in the restaurant cares for the lettuce. "It's good for city people to be able to do it."

And clearly it's good for McDavid to teach. "I like to act like the professor sometimes. And I do some learning, too. The first time I sowed the seed too deep and too close."

When McDavid talks about his lettuce, it's impossible to tell which is more im-

portant, the crop or McDavid's need to dig in the dirt. The savvy restaurateur knows "it's not economical to grow my own lettuce," but the displaced farmer likes "to get dirty; to get my hands in there; get dirt under my fingernails." Digging in the dirt — even if it's only 4 inches deep — helps satisfy the farming urge in Jack McDavid.

McDavid speaks admiringly of his 68-year-old father who "still shakes your hand so you know it's been grabbed hold of."

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***The first thing you want to do to catch a farmer's attention is the same thing you want to do to catch a car dealer's attention. There's one color that everybody understands — a universal language. I'd pay cash money for my products.***

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And when he compares carrying water for the lettuce up to the third floor to carrying food for the hogs on the farm, you know he's retained more of his heritage than that thick southern accent, which turns the world light into "lauyte."

McDavid, the pragmatic farmer, knows "you have to make the land. You have to deal with nature. You have to take chances. You have to be open-minded. If a neighbor has a better crop, you better change the way you do things. It's not something you can be stubborn at," says the 35-year-old McDavid who has his own streak of stubbornness. "All my emotions are vented immediately — whether hurt, anger, love, disappointment. Sometimes I stick my feet in my mouth, but the reason I do this is simple: I went into this business to be the best cook I can be. Everybody else can be a chef. I'm a cook. You come into the Firehouse for dinner, I'm back there cooking."

McDavid values freshness and taste, but his preference for organically-grown vegetables stems from a larger concern about the future of farming. "I'm not that big on saying organic is better for you. But we can't keep on poisoning our environment. We're altering it too much."

He rails against overkill in the use of pesticides to achieve a more-real-than-nature perfectionism. "The biggest problem with farming is that if we need a teaspoon of raw ammonium nitrate on a piece of land, we say, 'Well, if a teaspoon does this, we'll use three teaspoons and it will be that much better.' But that's not what happens. That nitrate runs off and poisons the water supply. We are going to have to become more realistic in this life," he says. "A storybook world won't work."

"Our food system is in shambles. We talk about shipping food to poor countries all over the world. If something were to happen to the West Coast, the East Coast would starve to death in two weeks. We are not self-supporting. We could be," says McDavid in the short, clipped phrases he slips into when making a point. "We can grow anything on the East Coast that we need. Why do you need blackberries in January?"

"You look out your window and you see somebody mugging somebody and you say 'Well, it's not bothering me.' But it is bothering you. Large agribusinesses are mugging us, slowly killing us."

When Jack McDavid needs something for one of his restaurants, he returns to the land. He gets in his car and drives to Lancaster County at 4 a.m., to be back at the Diner at 6 a.m. He's often in the kitchen of the Firehouse for dinner, and if it's raining or snowing, he might end the day by driving the dishwasher home at 2 a.m. He gets three or four hours sleep a night. "I never was good for sleeping," he says. "I think it's a waste of time."

When reminded that even plants need time to rest, the man who describes himself as a dirt farmer has a quick response: "My lettuces don't."

### **Book & Cook Dinner**


Jack McDavid will create an all-American dinner for this year's Book and Cook event, which gathers together cookbook authors from all over the world as guest chefs in Philadelphia restaurants. Jack has invited Leslie Land to collaborate with him on a five-course menu featuring regional cuisine that has made them both famous, through her writing and his cooking. Land is the author of *Reading Between the Recipes*; her weekly "Good Food" column is a regular feature in the *Philadelphia Inquirer* and the *San Francisco Examiner*, and she is a frequent contributor to *The New York Times* and *Yankee Magazine*.

Where: Jack's Firehouse  
2130 Fairmount Avenue  
Philadelphia  
Phone (215) 232-9000

When: Friday, April 12

Judy Mathe Foley is a freelance writer and editor who lives around the corner from Jack's Firehouse, which is right across the street from a Pennsylvania Horticultural Society planting of a Ribbon of Gold at Eastern State Penitentiary.





# *An English Country Garden in Northern Liberties*

by Susan Crossley

*Transforming a shell  
along with three lots,  
in northeastern  
Philadelphia.*

**M**y partner and I had just lost our country home, a barn on Shelter Island, New York, with an orchard and flower and vegetable gardens. We had been looking for another place with no success. Our row house on Catharine Street in the Graduate Hospital area in Philadelphia, with its postage stamp-sized garden, had been tolerable because we had always spent June through October out of town. I wondered as I read an ad in Philadelphia's *Welcomat* real estate section: Could we have our new country place right here in Philadelphia?

The ad was for a "colonial row house with six fireplaces, original details, and three additional lots" in Northern Liberties. Northern Liberties is a neighborhood in the northeastern quadrant of Center City. It is one of the oldest developed sections of Philadelphia with some of its first housing built in the 1760s. It is an ethnically diverse

*continued*

photo by Joan S. Redmond





Above: View of house and lots from Orkney Street in early spring, about seven months after the author moved in.

On right: View of the garden from second floor window.

Far right: Coreopsis, gaillardia, hollyhock, yarrow and daylily.



area and an area combining residential housing, commercial enterprises, and light industry, often all on the same block. And in 1986, when the ad appeared, it was one of the last areas where there were still housing bargains in Center City.

We drove over to Northern Liberties. The house was a shell; the vacant lots to the side and rear were rubble-strewn, with a tall grove of ailanthus trees shading the rear lots. But the house was charming, and we could see its potential; renovation was what we did for a living so we were not daunted by the work involved. And there was enough space on those three additional lots for fruit trees, berry bushes, flowers, herbs, and vegetables to commingle if planted intensively.

We bought the property on May 14, 1986. We began working on it on June 30th. Then, working seven days a week with one carpenter, two plumbers, and one electrician, we had the house in rough move-in shape by September 11th. By then we had also cut the grove of ailanthus trees and put up 180 feet of six-foot-tall cedar fence so our cats would not wander off.

Digging the postholes for the fence had been a challenge for our carpenter. The lots, now vacant, had once had houses upon them. The Fifth Street house that had been attached to ours had been Deppenschmidt's Bar. There had been workers' trinities on

the two Orkney Street lots. So each post hole had to be 'dug' with a rented jackhammer through granite foundations.

### *the garden*

The designing and shaping of the garden began with the 1987 growing season. The ailanthus trees, which had lain in a heap in the center of the yard for the winter months, much to the delight of the cats, were cut up for firewood and stacked along the south fence line. Then we had truckloads of rubble hauled away. We saved the old bricks and completed a 17' x 20' patio right outside our back door. And we laid winding brick paths through the property and dug planting beds on both sides of the paths.

Our intent, wherever possible, was to work with the land's existing topography. That the garden was neither square nor totally flat added to its visual interest. An old stone foundation separated it into two levels just beyond the brick patio. We built a stairway of slate stepping stones from one level to the other. We left a low brick wall on the south side of the patio intact except for a three-foot opening, which leads into the strawberry patch. We kept the largest ailanthus stump, planted wintercreeper around it, and placed our birdbath on top of it.

Once the basic design was roughed in,

we began planting. We ordered semi-dwarf, three-year-old fruit trees and raspberry bushes from Henry Leuthardt Nurseries (P.O. Box 666, East Moriches, New York, 11940). We chose semi-dwarfs because space was limited, and because

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*Growing fruits and vegetables in a city garden presented us with a new series of challenges. While we no longer have to compete with deer, rabbits, raccoons, and turtles, we have found that insect pests are more voracious here.*

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they begin bearing fruit earlier than standards. Perennial flowers, shrubs, and vines were adopted from friends' and relatives' gardens in New Jersey; Shelter Island, N.Y.; Radnor, Pa.; and Center City Philadelphia. We mail-ordered vegetable, herb, and flower seeds and planted the vegetables amongst the flowers and herbs.

The garden began to take shape and year by year it has matured. The growing season in Center City is six to eight weeks longer than we were accustomed to on Shelter Island and the hot, humid weather is a boon to most of the plants. Even the extraordinarily hot summer of 1988 did little to discourage the garden other than sunburning the leaves on the lilacs.





The fruits, berries, and vegetables we grow were primarily chosen for their flavor. The apples, Wealthy (early) and Idared (late) are crisp and tart, excellent for eating and cooking. The Redhaven peach bears dozens of sweet, juicy fruits by the end of July. The fig is an heirloom, which we rooted from an old fig tree in the family garden on Shelter Island. The red raspberry bushes include early (Newberg), mid-season (Latham), and everbearing (Fallred, Heritage, and September) varieties that assure us of a good supply of berries from mid-June through September.

The strawberry beds grew from a dozen plants of an unknown variety that our neighbor, Roy, planted in a corner of the property when it was still vacant. We had never had much success with strawberries on Shelter Island, but nevertheless, we transplanted those plants that made it through the tree felling and the first winter. They multiplied and were fruitful and produce some of the best berries I have ever tasted.

Burpee and Shepherd's Seeds are our sources for vegetable, herb, and flower seeds. We start tomatoes, peppers, eggplant, and basil in pots on a sunny windowsill in mid-March. All the other seeds are sown directly in the garden at the appropriate times.

Early in the spring, usually the second

week in March, we plant English shelling peas, spinach, lettuce, radishes, leeks, carrots, and beets. We try to get them in as early as possible since cool spring weather doesn't last long in Center City, giving way quickly to early heat, which causes the lettuce and spinach to bolt and the pea vines to wilt and the peas to taste bitter. Last spring the spinach went from seedling size to fully developed, then bolted in a little over one week at the end of April when the temperature reached 90°F several days in a row.

By the middle of May it is usually warm enough to plant the tomato, pepper, eggplant, and basil plants outdoors. The varieties we plant are European, bred for flavor rather than shipping ease.

By mid-May we sow the balance of our warm weather vegetables, corn, beans, okra, melons, cucumber, and squash, directly in the ground. We plant the corn and beans successively at two- to three-week intervals to assure us of a steady supply throughout the summer. Every season we experiment with a new variety of green and wax beans, but we've planted Burpee's Breeder's Choice corn for the past three summers. Its flavor is unbeatable.

We grew Sweet Dumpling winter squash for the first time last summer. We had bought some the previous September at a farm stand on the north shore of Long

Island and thought it was one of the best winter squashes we ever tasted. The seed packet warned us that "Sweet Dumpling is slow to germinate and not extremely vigorous in habit" so we doubled the amount of seeds we planted. But we still harvested only two squashes off the one vine that survived. The squashes were every bit as good as we remembered, so we'll plant even more seeds next year.

### *challenges in the city*

Growing fruits and vegetables in a city garden presented us with a new series of challenges. While we no longer have to compete with deer, rabbits, raccoons, and turtles, we have found that insect pests are more voracious here. Tomato hornworms, squash bugs and vine borers, Colorado potato beetles, peach tree borer, parsley/dill worms, and slugs are all problems. But at the same time we have a healthy in-garden supply of ladybugs, praying mantises, and songbirds. We are organic gardeners and rely on the old fashioned, "hand pick and squash" method of insect control.

The soil needed little improvement other than digging and discarding the rubble because rich layers of humus had accumulated over the years. But we did need to fertilize our crops. As soon as we moved in we began a compost pile, layering fruit and vegetable refuse, weeds, and all non-woody plant trimmings. This provides us with a fresh supply of compost every six months. We discovered there was an old, abandoned stable two properties away from our rear lots on Orkney Street. Its owners were happy to have us dig out and remove an ample pile of well-rotted horse manure.

Every year we buy bales of hay to mulch the vegetable beds. We put down two or three bales in the early summer after the soil has warmed and most of the crops are planted. In the fall we put down another few bales to keep the weeds from sprouting after we pull the spent plants. We buy the hay at Greer Brothers, a feed store in Kensington, only a 10-minute drive from the house.

The vegetable beds are spread throughout the property between informal drifts of annual and perennial flowers, herbs, flowering shrubs, and vines. There are flowers blooming everywhere all season long. Old-fashioned climbing roses grow along the south fence line. Tall hollyhocks line the north and east fences. Honeysuckle covers the fence outside the kitchen window. Wisteria climbs up to the second floor

*continued*



## THE GARDEN

### Vines:

*Celastrus scandens* — bittersweet  
*Clematis paniculata*  
*Euonymus fortunei* — wintercreeper  
*Lonicera* — honeysuckle  
*Parthenocissus quinquefolia* —  
 Virginia creeper  
*Parthenocissus tricuspidata* —  
 Boston ivy  
*Vinca minor* — myrtle  
*Wisteria sinensis*

### Shrubs:

*Forsythia*  
*Myrica pensylvanica* — bayberry  
*Philadelphus coronarius* —  
 mock orange  
*Rhododendron* — azalea  
*Syringa* — lilac

### Evergreens:

*Ilex*

### Perennial flowers:

*Achillea* — yarrow  
*Alcea rosea* — hollyhock  
*Aquilegia* — columbine  
*Arisaema triphyllum* —  
 jack-in-the-pulpit  
*Artemisia*  
*Chrysanthemum*  
*Chrysanthemum leucanthemum* —  
 daisy  
*Chrysanthemum maxima* —  
 shasta daisy  
*Chrysanthemum parthenium* —  
 feverfew  
*Convallaria* — lily-of-the-valley  
*Coreopsis*  
*Delphinium*  
*Dianthus*  
*Dicentra* — bleeding heart  
*Digitalis* — foxglove  
*Echinacea* — coneflower  
*Gaillardia*  
*Goniolimon tataricum*  
*Hemerocallis*  
*Iris*  
*Lamium*  
*Lilium*  
*Lysimachia clethroides* —  
 gooseneck loosestrife  
*Lythrum salicaria*

### Perennial flowers (continued):

*Mertensia virginica* — Virginia  
 bluebell  
*Monarda* — beebalm  
*Myosotis* — forget-me-not  
*Narcissus*  
*Papaver orientale* — oriental poppy  
*Phlox paniculata*  
*Physostegia virginiana*  
*Polemonium* — Jacob's ladder  
*Rudbeckia* — black-eyed Susan  
*Sedum*  
*Tanacetum vulgare* — tansy  
*Tulipa*  
*Veronica*  
*Viola papilionacea* — violets

### Reseeding annuals:

*Antirrhinum* — snapdragon  
*Consolida ambigua* — larkspur  
*Ipomoea* — morning glory  
*Lobularia maritima* —  
 sweet alyssum  
*Nicotiana*  
*Xeranthemum*

### Herbs:

*Agastache foeniculum* —  
 anise hyssop  
*Allium* — chives  
*Anethum graveolens* — dill\*  
*Coriandrum sativum* —  
 coriander\*  
*Lavandula angustifolia* — lavender  
*Mentha arvensis* and  
*M. spicata* — mint  
*Origanum vulgare* — oregano  
*Salvia* — sage  
*Thymus* — thyme  
 \* reseeded annuals

### Bearing fruit trees:

Crab apple  
 Fig  
 Idared apple  
 Redhaven peach  
 Wealthy apple

### And . . .

*Albizia julibrissin* —  
 mimosa  
 Climbing roses  
 Raspberries  
 Strawberries

### 1990 Vegetable Varieties

Shepherd's Garden Seeds  
 30 Irene Street  
 Torrington, CT 06790  
 (203) 482-3638

Agora eggplant  
 Arlessa zucchini  
 Bounty shelling pea  
 Cadice pepper  
 Camp Joy cherry tomato  
 Carmello tomato  
 Dona tomato  
 Hylares cucumber  
 Mantilla butterhead lettuce  
 Monopoly beet  
 Nantes Tip Top carrot  
 Otima leek  
 Pancha melon  
 Roc D'Or bush yellow bean  
 Slankette bush green bean  
 Sweet Dumpling squash  
 Wolter spinach

W. Atlee Burpee & Co.  
 300 Park Avenue  
 Warminster, PA 18974  
 (215) 674-4915

Annie Oakley okra  
 Breeder's Choice corn  
 Burpee Early Hybrid  
 crenshaw melon  
 Cherry Bomb radish



Harvest from a city garden.

photo by Joan S. Redmond

porch. The patio is surrounded by phlox, veronica, iris, daisies, nasturtiums, and hydrangea. Color and fragrance abound throughout the garden.

While most of the property is under cultivation, we planted two small areas of lawn, one on the north side of our house and the other in the rear by the raspberry patch. We use a hand mower to cut the grass.

The garden has completed its fourth growing season, an ever-increasing palette of colors and textures, tastes and fragrances. It is a lush farm in the city, providing us and our friends, neighbors, and relatives with fresh fruit, vegetables, flowers and herbs from March through November.

The house is finished, the walls replastered and painted, the trim restored, the floors refinished. But the garden is not. A

garden, by its very nature, is never finished but always growing and changing. That is its challenge; that is its joy.

Susan Crossley and Joan S. Redmond sold their house in Northern Liberties in the fall of 1990. They moved to Pine Plains, New York, where they bought a two-hundred-year-old house on two acres. They are busy renovating the house and planting a new garden.



# PLANT SOCIETIES' MEETINGS IN 1991

 by Carol Lukens



photo by Joyce Douglas

The annual herb sale held by the Philadelphia Unit, Herb Society of America, will be held in Kimberton, Pa., for the 13th year in a row, May 9, rain or shine.

## AFRICAN VIOLET SOCIETY OF PHILADELPHIA

### Annual Show & Plant Sale

May 4, 1-9 pm  
May 5, 12-4 pm  
Plymouth Meeting Mall  
Germantown Pike  
Plymouth Meeting, PA 19462

### Contact:

Margaret DePhillippo  
1074 Grange Ave.  
Collegeville, PA 19426  
(215) 489-4744

## AFRICAN VIOLET SOCIETY OF SPRINGFIELD, DELAWARE COUNTY

### Annual Show & Plant Sale

April 20, 12-9:30 pm  
April 21, 12-5 pm  
Springfield Mall  
Baltimore Pike & Route 320  
Springfield, PA 19064

### Contact:

Elizabeth G. Roth  
105 Carleton Rd.  
Wallingford, PA 19086  
(215) 566-6272

## PENNSYLVANIA BONSAI SOCIETY

### Bonsai Exhibit

Philadelphia Flower Show  
March 10-17  
Philadelphia Civic Center  
34th & Civic Center Blvd.  
Phila., PA 19104

### Auction/Picnic

June TBA\*  
New Hope, PA 18938

### Contact:

Howard McNeal  
RD #1, Box 502  
Honeybrook, PA 19344  
(215) 942-2082

Admission to Flower Show: \$10.50

## BRANDYWINE CONSERVANCY

### Wildflower & Native Plant Sale

May 11-12, 9:30 am-4:30 pm  
Brandywine River Museum  
Courtyard  
Route #1 & 100  
Chadds Ford, PA 19317  
Free admission to plant sale

### Plant Sale

May through October  
9:30-4:30 pm  
Brandywine River  
Museum Courtyard  
Route #1 & 100  
Chadds Ford, PA 19317  
Wildflower cart offering  
plants that are in  
bloom in the garden.  
Free admission to plant  
sale.

### Contact:

Mark Gormel  
Box 141  
Chadds Ford, PA 19317  
(215) 388-7601 ext. #127

## PHILADELPHIA CACTUS & SUCCULENT SOCIETY

### Philadelphia Flower Show

March 10-17  
Philadelphia Civic Center  
34th & Civic Center Blvd.  
Philadelphia, PA 19104

### Plant Sale

October TBA\*,  
9 am-5 pm  
Peddlers Village  
Lahaska, PA 18931

### Contact:

Dr. Vincent J. Buono  
2330 Highland Ave.  
Drexel Hill, PA  
19026-1510  
(215) 259-8404

## DELAWARE VALLEY CHRYSANTHEMUM SOCIETY, INC.

### Annual Mum Show

October 12, 1-5 pm  
October 13, 10-5 pm  
Longwood Gardens  
Kennett Square, PA 19348  
Longwood Gardens  
admission: \$8.00

### Plant Sale

May 18, 10-4 pm  
May 19, 12-4 pm  
Tyler Arboretum  
Lima, PA 19037

### Contact:

Norman Yeoman, Jr.  
116 Bondsville Rd.  
Downingtown, PA 19335  
(215) 269-2226

## CHRYSANTHEMUM SOCIETY OF SOUTH JERSEY

### Annual Mum Show "42 Years"

November 2 & 3, 1-5 p.m.  
Gloucester County College  
Deptford Township  
Sewell, NJ 08080

### Plant Sale:

May 17, 3-8 p.m.  
May 18, 9-5 p.m.  
Edwin C. Erichson  
323 Columbia Ave.  
Pitman, NJ 08071

### Contact:

John Kelly  
122 Princeton Avenue  
Gloucester, NJ 08030  
(609) 456-3349

## DELAWARE VALLEY DAFFODIL SOCIETY

### Annual Flower Show

April 26, 1-5 pm  
April 27, 10-5 pm  
Longwood Gardens  
Kennett Square, PA 19348  
Longwood admission fee:  
\$8.00

### Contact:

Mrs. W. R. MacKinney  
535 Woodhaven Road  
West Chester, PA 19382  
(215) 399-1211

## NEW JERSEY DAFFODIL SOCIETY

### 16th Annual New Jersey Daffodil Show

April 16, 1-6 pm  
Frelinghuysen Arboretum in the  
Haggerty Education Building  
Morristown, NJ 07960

### Contact:

Paula Stuart  
394 Charlton Avenue  
South Orange, NJ 07079  
(201) 763-0935

## GREATER PHILADELPHIA DAHLIA SOCIETY

### Annual Show

September 21, 2-5 pm  
September 22, 12-4 pm  
Fair Acres Geriatric Center  
Route 352  
Lima, PA 19037

### Contact:

James W. Thomas  
8 Woodmont Lane  
Malvern, PA 19355  
(215) 644-7614

## DELAWARE VALLEY DAYLILY SOCIETY

### Annual Flower Show

July 13, 10-5 pm  
Court at King of Prussia  
King of Prussia, PA 19406

### Plant Sale

September 7  
9-12 pm  
Tyler Arboretum  
Painter Road  
Lima, PA 19037

### Contact:

Joan Jackson  
22 Summit Rd.  
Malvern, PA 19355  
(215) 341-2354 (W)

## DELAWARE VALLEY FERN & WILDFLOWER SOCIETY

### Hike

June 9, 10:30-3 pm  
Rockland Botanical Garden  
Scott's Woods  
Fredericksville, PA

### Contact:

John & Margaret Scott  
Box 249 D  
Hertzog School Road  
R.D. 1  
Mertztown, PA 19539  
(215) 682-2809

## AMERICAN GOURD SOCIETY INC.

### 29th Annual Gourd Show

October 5, 12-6 pm  
October 6, 9-5 pm  
Fairgrounds  
Mt. Gilead, Ohio 43338  
Fee: \$1.00

### Contact:

John Stevens  
P.O. Box 274  
Mt. Gilead, OH  
43338-0274  
(419) 946-3302

## HERB SOCIETY OF AMERICA, DELAWARE VALLEY UNIT

### Plant Sale

May 18, 10-4 pm  
Prallsville Mill  
Route 29  
Stockton, NJ 08559

### Contact:

Joan Schumacher  
25 Rosemore Drive  
Chalfont, PA 18914  
(215) 997-1549

## PHILADELPHIA UNIT, HERB SOCIETY OF AMERICA

### Herb Sale

May 9, 10-2 pm  
Home of Dr. & Mrs.  
Bryce Douglas  
Pughtown Rd.  
Kimberton, PA 19442

### Contact:

Joyce Douglas  
Pughtown Rd.  
Kimberton, PA 19442  
(215) 933-1492

continued



**HIGHLAND HISTORICAL SOCIETY****Garden Party Lecture and Plant Sale**

May 22, 10-3 pm  
Lecture at 11:00  
The Highlands  
7001 Sheaff Lane  
Fort Washington, PA 19034  
Fee: \$22.00

**DELAWARE VALLEY HOSTA SOCIETY****Garden Tour & Plant Auction**

June 15, 2:30-4:30 pm  
Charles R. Seaver  
703 Mt. Lebanon Rd.  
Wilmington, DE 19803

**Garden Tour & Plant Auction**

September 7, 1:30-4 pm  
Mark Shulman  
21 Campbell Road  
Kendall Park, NJ 08824

**Contact:**

Cathy Hoffman-Lynch  
7001 Sheaff Lane  
Fort Washington, PA 19034  
(215) 641-2687

**Contact:**

Warren I. Pollack  
202 Hackney Circle  
Wilmington, DE 19803  
(302) 478-2610 (H),  
(302) 366-2436 (W)

**PHILADELPHIA CHAPTER OF IKEBANA INTERNATIONAL**

**Ohara Demonstration** by  
Ann Perry, 4th Degree Master  
April 25, 1-3 pm  
Radnor Memorial Library  
114 W. Wayne Ave.  
Radnor, PA 19087  
Guest Fee: \$5.00

**Contact:**

Joan LePard  
1012 Richmond Rd.  
Broomall, PA 19008  
(215) 356-3660

**DIAMOND STATE IRIS SOCIETY****Iris Show**

May 25, 12-9 pm  
Dover Mall  
Route 13  
Dover, DE 19901

**Iris Sale**

July 13, 10-1 pm  
Dover Mall  
Route 13  
Dover, DE 19901

**Contact:**

Mrs. Arthur Martin  
116 Meriden Dr.  
Hockessin, DE 19707  
(302) 998-2414

**GARDEN STATE IRIS SOCIETY****Iris Show**

May TBA\*, 12-5 pm  
Location TBA\*

**Plant Sale**

July TBA\*, 12-5 pm  
Location TBA\*

**Contact:**

Nancy Szmuriga  
444 South 5th Street  
Highland Park, NJ 08904  
(201) 572-1151

**MID-ATLANTIC REGIONAL LILY GROUP****Annual Lily Show**

June 22, 1-5 pm  
June 23, 10-5 pm  
Longwood Gardens  
Kennett Square, PA 19348  
Longwood Admission fee:  
\$8.00

**Plant Sale**

October 26, 1 pm  
Jenkins Arboretum  
631 Berwyn-Baptist Rd.  
Devon, PA 19333

**Contact:**

Mrs. W. R. MacKinney  
535 Woodhaven Road  
West Chester, PA 19382  
(215) 399-1211

**MARIGOLD SOCIETY OF AMERICA****Annual Meeting**

TBA\*

Fee: Annual dues: \$12.00

**Contact:**

Jeannette Lowe  
394 West Court St.  
Doylestown, PA 18901  
(215) 348-5273

**CENTER CITY ORCHID SOCIETY****Trip to Regional Orchid Judging**

March 20, 7:15 pm  
Horticultural Center  
Horticultural Drive  
near Belmont Ave.,  
Fairmount Park  
Philadelphia, PA 19131  
For transportation from  
Center City Philadelphia,  
call Mary Ann Skaziak.  
Trip to replace March  
monthly meeting.

**Monthly Meeting**

3rd Monday  
6:30 pm for questions  
and answers  
7 pm, Official Meeting  
Pennsylvania  
Horticultural Society  
325 Walnut St.  
Philadelphia, PA 19106

**Contact:**

Mary Ann Skaziak  
3023 Edgemont Street  
Philadelphia, PA 19134  
(215) 423-8224 (H)  
(215) 751-4775 (W)

**DELAWARE VALLEY ORCHID SOCIETY, INC.****Monthly Meeting & Show Table**

March 14, May 9 at 8 pm  
Brandywine Masonic Hall  
2601 Foulk Road  
Wilmington, DE 19810

**Plant Sale**

April 11, 8 pm  
Brandywine Masonic Hall  
2601 Foulk Road  
Wilmington, DE 19810

**Contact:**

A. A. Chadwick  
520 Meadowlark Lane  
Hockessin, DE 19707  
(302) 656-1091

**SOUTH JERSEY ORCHID SOCIETY****Orchid Show**

November (tentative)  
Time and Location TBA\*

**Plant Sale**

November 17  
1-3:30 pm  
Wenonah Methodist  
Church  
Wenonah, NJ 08090

**Contact:**

Carla Vandergrift  
325 S. Cummings Ave.  
Glassboro, NJ 08028  
(609) 589-7246

**SOUTHEASTERN PENNSYLVANIA ORCHID SOCIETY****Eastern Orchid Congress & Show**

October 24-27, Time TBA\*

**Monthly Meetings**

September through June  
2nd Wednesday of each

**Contact:**

Mrs. George S. (Deborah)  
Robinson

Holiday Inn, King of Prussia

King of Prussia, PA 19406

Show ticket: \$2.00

month, 8 p.m.

All Saints Episcopal  
Church

Gypsy Lane at  
Montgomery  
Narberth, PA 19072

Well's Acres

2604 Horseshoe Trail  
Chester Springs, PA

19425-8912  
(215) 827-7445

**AMERICAN PRIMROSE SOCIETY, DORETTA KLABER CHAPTER****Garden Visits**

May TBA\*

**Plant Sale**

June TBA\*

**Contact:**

Anita Kistler  
1421 Ship Rd.  
West Chester, PA 19380  
(215) 696-8020

**AMERICAN RHODODENDRON SOCIETY,****GREATER PHILADELPHIA CHAPTER****Rhododendron & Azalea****Flower Show**

May 11, 11:30-4:30 pm  
Widener Center  
The Morris Arboretum  
Northwestern Avenue  
entrance  
Philadelphia, PA 19118  
Exhibitors: ARS members

**Plant Sale**

May 11, 11:30-4:30 pm  
Widener Center  
The Morris Arboretum  
Northwestern Avenue  
entrance  
Philadelphia, PA 19118

**Contact:**

Betts Layman  
212 Almur Lane  
Wynnewood, PA 19096  
(215) 642-4437

**AMERICAN RHODODENDRON SOCIETY, VALLEY FORGE CHAPTER****Rhododendron Truss Show**

May 12, 1-4 pm  
Longwood Gardens —  
Fern Room  
Kennett Square, PA 19348  
Longwood admission fee:  
\$8.00

**Plant Sale**

May 4, 9-3 pm  
May 5, 11-3 pm  
Jenkins Arboretum  
631 Berwyn-Baptist Rd.  
Devon, PA 19333

**Contact:**

Francis Raughley  
2112 Foulk Rd.  
Wilmington, DE 19810  
(302) 475-4396

Exhibitors: ARS members  
only

**AMERICAN ROCK GARDEN SOCIETY, DELAWARE VALLEY CHAPTER****Exhibit**

Philadelphia Flower Show  
March 10-17  
Philadelphia Civic Center  
34th & Civic Center Blvd.  
Philadelphia, PA 19104  
Admission to Flower Show:  
\$10.50

**Monthly Meeting**

1st or 2nd Saturday of  
each month  
10-12 pm  
Location: TBA\* in  
newsletter  
Annual fee: \$5.00

**Contact:**

Morris West  
P.O. Box 75  
Brogue, PA 17309  
(717) 244-0438

**DEL-CHESTER ROSE SOCIETY****Rose Show**

June 8, 1-7 pm  
Restaurant — lower & upper  
level  
Longwood Gardens  
Kennett Square, PA 19348  
Longwood admission: \$8.00

**Monthly Meeting**

March, April, May,  
September, October,  
November  
4th Monday, 8 pm  
Delaware Valley Christian  
Church  
Old Middletown Rd.  
(off Rt. 352 across from Penn  
State Lima Campus)  
Lima, PA 19037

**Contact:**

Patricia Bilson  
127 Gable Rd.  
Paoli, PA 19301  
(215) 644-1860

**PHILADELPHIA ROSE SOCIETY****Annual Rose Show**

June 1, entries, 7-10:30 am  
Visitors 1-5 pm  
Morris Arboretum  
Widener Education Center  
Northwestern Ave.  
Philadelphia, PA 19118  
Arboretum admission fee:  
\$2.00

**Monthly Meetings**

March, April, May,  
October, November  
1st Thursday, 8 pm  
Garden visits June &  
September  
Mary Wood Park House  
Community Center  
120 E. 5th Ave.  
Conshohocken, PA 19428

**Contact:**

Pat Pitkin  
923 Springwood Dr.  
West Chester, PA 19382  
(215) 692-4076

**BOWMAN'S HILL WILDFLOWER PRESERVE ASSOCIATION****Craft Sale**

November 23, 10-4 pm  
Bowman's Hill Wildflower  
Preserve  
Route 32 (River Road)  
2 miles south of New Hope,  
PA 18938

**Plant Sale**

May 10, 2-7 pm,  
members  
May 11, 10-4 pm, public  
Bowman's Hill  
Wildflower Preserve  
Route 32 (River Road)  
2 miles south of New  
Hope, PA 18938

**Contact:**

Janet L. Urban  
Washington Crossing  
Historic Park  
P. O. Box 103  
Washington Crossing, PA  
18977  
(215) 862-2924

\*TBA — to be announced

**For Future Listings**

*Green Scene* publishes a list of area plant society meetings and plant sales annually in the March issue of *Green Scene*. DEADLINE: November 15. Please follow format used here. Write to: Editor, *Green Scene*, PHS, 325 Walnut Street, Philadelphia, PA 19106.





Mixed annual flower border edged with everbearing strawberries mulched with pine needles. The low height of the deep-green foliage frames the flowers with a live trim.

# STRAWBERRIES ON THE EDIBLE EDGE

## ... *doing double-duty in the flower border*

 by Joe Colanero

**F**orces other than just aesthetics led me to plant strawberries at the edge of my annual flower border. In the vegetable garden, my confusion about spacing and fear of losing control of fast-growing runners kept me from any grand scheme. Mother plants send out daughter, and daughter plants send out granddaughter plants and so on. Feeling wimpy about eliminating these crowding relatives, I doubt if I could have had a decent strawberry patch there. Diminishing gifts of strawberries from my mother-in-law didn't help either. I had to do something.

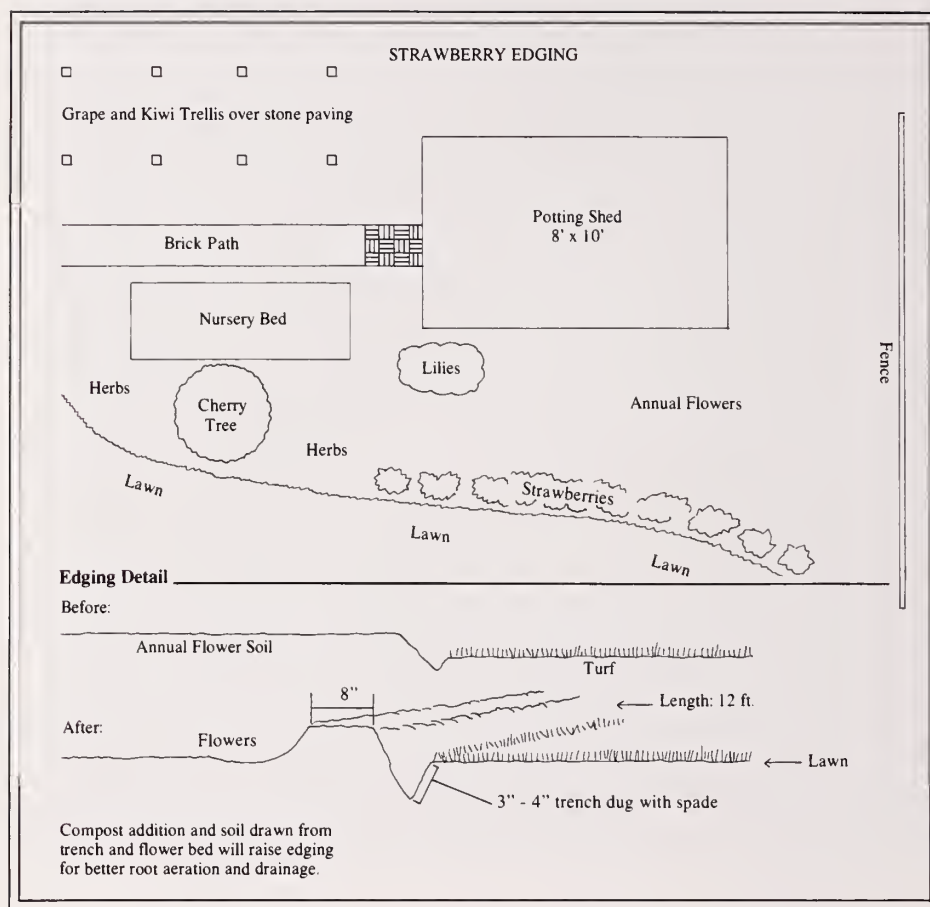
About the time I realized I had to become self-sufficient in producing strawberries, research reports were being published on the promising high-yield ribbon-row system — a method where plants are spaced 3 to 6 inches apart in a single row with *all* runners removed. The final conclusions weren't in, yet they admitted the ribbon-row method would produce high yields if you were willing to provide a lot of attention. That means labor, and to me, it's free. Removing runners results in larger, multiple-crown plants bearing larger fruits. It requires more plants, but that would be

no problem for my ambitious 12-foot row as minimum orders are usually 25 plants from mail-order houses.

Another boost to the notion of an edible edge to the flower border came from two disease-resistant strawberry variety releases from the USDA, Tribute and Tristar. They are day-neutral types, which means they bear throughout the growing season instead of being June-bearing. What was remarkable about Tribute and Tristar was their quantum leap in productivity over existing everbearing varieties such as the old standard, Ozark Beauty. The fact that the ever-

*continued*





## STRAWBERRIES ON THE EDIBLE EDGE

We manage to dispose of bulk of the supply of garden strawberries with the following recipe:

### STRAWBERRIES ROMANOV

Strawberries that survive the picker's palate can be served as an elegant dessert. There are many variations of Strawberries Romanov, and this is but one. The added ingredients do bring out the fresh tart taste without overwhelming them; they taste better. Garden-fresh berries are too good for that.

- 1 quart fresh strawberries
- 3 tablespoons frozen orange juice concentrate
- 3 tablespoons orange-flavored liqueur, such as Triple Sec
- Added sugar to taste

For serving:  
pound cake, homemade of course  
whipping cream

Wash, stem and cut the strawberries in half. Place them in a non-metallic mixing bowl with the orange juice, liqueur, and sugar to taste, stirring in carefully. Cover and allow to steep for 20 minutes or more in the refrigerator. If diners are to serve themselves, transfer strawberries to an attractive serving dish with a generous-sized serving spoon to gather up the low-lying juice as well. Prepare and serve with whipping cream. By the way, no one in our household has ever had one serving, so have ample reserves.

Joe Colanero

bearers throw out fewer runners helped their chances for consideration as border plants.

### ribbon-row planting

Studying the culture for ribbon-row planting, it seemed I could cope with all of the demands. Good drainage could be insured by spading a shallow four-inch trench, which at the same time imitated the venerable English manner of edging a bed. Such an exposure, in the sunny flower bed, would call for a drip hose as my sandy soil and uncertain rains required frequent irrigation.

Everything I read insisted that the site be prepared a year in advance. Silly. The soil in my flower bed had been cultivated and improved over the years with additions of compost. What's more, the flower bed soil wasn't likely to host verticillium wilt as, to my knowledge, annual flowers aren't willing hosts to verticillium fungus, something to avoid when planting strawberries. I risked by-passing a soil pH test as the soil seemed fine for all the flowers grown, and wouldn't be far above the top 6.5 pH range strawberries favor.

The border edging was shaped with a top ridge about eight inches in width and eight inches above the base of the trench. Into the top of the ridge, I mixed in ½-pound of 10-6-4 organic Espoma Turftone fertilizer. It's what I had handy.

That being done in early March, I ordered 25 Tristar — less productive than Tribute, but sweeter — plants from Bunting's Nurseries in Selbyville, Delaware. A short time later, UPS delivered healthy full-rooted plants, which I transplanted, spacing them six inches apart along a single row of 12 feet. Mindful of setting the crown at exact soil level, I fertilized the plants with a soluble transplant solution. To follow their native forest habitat and for contrast, I applied a light mulch of dark leaf mold. Uncertain about pinching off blossoms, I decided to pick off those that appeared during the next four weeks to allow them a rest before commencing production.

The ease of tending the plants, so accessible on the edge, resulted in pampered strawberries. The weeds that did emerge from the mulch were easy to lift, and most of all, the runners were cut without hesitation. The drip hose installation, which I postponed, turned out to be unnecessary. The frequent visits to enjoy the flower bed's look, kept me there to water well.

That first year, spring production was light, with minimal, small berries in the





The disease-resistant Tristar bears throughout the season.

heat of summer and good yields again in the fall. The second year, the yields were plentiful, both spring and fall, with more than enough for the table and the freezer. As with everbearers, they were given high nitrogen foliar food every 30 days until September 30th. A heavy pine-needle mulch was applied when hard frost put them into dormancy in December.

#### ***birds, chemicals and herbs***

I did cover the edging with an inexpensive nylon netting from a fabric store to protect the ripening berries from the birds.

For the two years I've grown strawberries as an edging, I've played with various flowering annuals, plus a few herbs. While

#### **SOURCES**

Bunting's Nurseries, Inc.  
P.O. Box 306  
Selbyville, DE 19975  
Free catalog.

W. Atlee Burpee & Co.  
300 Park Avenue  
Warminster, PA 18991-0001  
Free catalog.

Nourse Farms, Inc.  
Box 485 RFD  
South Deerfield, MA 01373  
Free catalog.

I haven't hit upon a grand scheme, I work against forest-green leaves and the flower and berry color. Nearby caladiums and dusty millers presented pleasing partners.

David Devine from Bunting's Nurseries tells me I can expect three to four years useful life from day-neutrals, so rather than any future renovation scheme, I'll work up an appetite for another edible planting on the edge. Who knows — peppers, chives, carrots, curly parsley? For more strawberries, I'll have to plant another flower border.

•

Joe Colanero writes a regional newspaper column and gardens in Woodbury, N.J.





Rhubarb in bloom.



# RHUBARB:

## The Domesticated Barbarian

 by Donna Bickley

When I was young, rhubarb was so domesticated, that my Pennsylvania German family called it simply, “pieplant.” Rhubarb, in pie and as sauce, was our first “fruit” of the season. My grandmother was clear that it not only tasted good, it was also good for us. Alongside sassafras tea and dandelion greens, rhubarb was revered as a tonic for our sluggish, winterized systems. And there were warnings, mostly unheeded, not to eat too much lest some intestinal malfunction occur.

Rhubarb, *Rheum*, has long been valued as a fruit, a vegetable, a medicine, and an ornamental plant. It was named for the Volga River, then called “Rha,” on whose fertile banks it thrived. First known as *Rhabarbarum* (translate “barbarian of the Rha River”), it has been known to the Western World since the 1700s. In 1810, garden rhubarb (*Rheum rhabarbarum*) is recorded as first being sold “at market” to use as a fruit.

### homeopathic and medicinal uses

At first, *Rheum* was used only medicinally, and medieval man imported *Rheum palmatum* or *R. officinale* from China or Tibet. The dried powdered root was valued as a purgative (bowel-cleanser), an astringent, and a tonic to assist digestion. According to Doug Campbell, pharmacist at The Medicine Shop in Baltimore, rhubarb is still cited in the *U.S. Pharmacopeia*, and the *Homeopathic Pharmacopeia of the United States*. The *Materia Medica* (French equivalent to the above) lists *Rheum sinense rhumindicum* (not listed in *Hortus Third*) as suitable for treating infants with diarrhea during teething or as an antidote for the consumption of unripe fruits. It’s recognized as a “tonic” for the liver and intestines, and a curative for temperamental and restless babies with “sour spells” (baby’s mucus smells sour) and colic.

### rhubarb: ill-deserved obscurity

Growing up, most of us knew little about rhubarb other than its jolt of mouth-

puckering sourness, teamed with sweet. Children might chew on the raw stalks or dip them in sugar.

Everybody seemed to have a rhubarb plant in their backyard, at the end of the lot near the shed. All of this has changed. Rhubarb has fallen into ill-deserved obscurity. The days of “taking rhubarb straight” passed somewhere between my generation and that of my offspring. My daughter, 28, knows rhubarb only as limp, leafless pink stalks in the grocer’s gourmet section, or frozen reddish chunks in white plastic packets.

Rhubarb has had bad press. Its name entered our language as a noun meaning “a heated discussion, quarrel, or fight.” Its sourness, requiring large amounts of sweetener for most tastes, has lowered its popularity in our era of “low sugar” eating. Its medicinal uses diminished in our age of miracle drugs. Its size has made it less popular in the days of small space gardening. The poisonous leaves make modern gardeners squeamish, though we don’t hesitate to plant tomatoes whose leaves are also deadly. Our ability to fly fresh fruits to our markets at all times of the year makes a “first-fruit-of-the-spring” taste less exciting.

In spite of all of this, I think rhubarb has a unique place in '90s gardens. Adding a tartness to desserts and preserves rivaled only by the lemon or the gooseberry, rhubarb costs less and is easier to grow and harvest than either. It’s a fine, easy-going perennial, with historical, herbal value on its own merits — a natural for edible landscaping.

### culinary uses

Most people think “pie” or “sauce” when rhubarb is mentioned. Certainly a good rhubarb pie has few rivals. Historically, however, rhubarb has been used in many ways: for jellies, jams, puddings, and a base for wine or punch.

Be creative, like our ancestors. Try rhubarb as a base for a crisp, using your apple crisp recipe, sweetening to taste. Combine

with other, sweeter fruits, but not the redundant strawberry, please. With the magic of microwave ovens, rhubarb can be cooked quickly and easily in only a few minutes.

My favorite way to use rhubarb is in rhubarb custard pie. Line a pie pan with your favorite pie crust (frozen, if your time is as limited as mine). Place lightly cooked rhubarb chunks, sweetened to taste, to cover the bottom. Add a favorite egg custard mixture, the kind that you must bake in the pie shell. Bake until set. The rhubarb chunks rise to the surface of the pie during baking. The combination of sweet and creamy custard with tart rhubarb is delicious.

### warning: poisonous leaves

For culinary purposes, use only rhubarb stems. The leaves are considered poisonous; eating them has reportedly killed both pigs and people. Rhubarb leaves contain oxalic acid, and surviving risk-takers report that the flavor is vile. The debate over the poisonousness of rhubarb leaves has yielded varying opinions over the years and in different parts of the world. The conclusion: *some people become violently ill and others die after eating rhubarb leaves*. We have decided it’s not worth the risk.

### ornamental value

Rhubarb’s relegation to the back lot is unwarranted. The huge leaves of rhubarb are similar to the leaves of the elephant’s-ear (*Colocasia antiquorum*), which many people prize for its tropical appearance. Rhubarb is less trouble to grow and, in addition, has showy flower stalks with masses of tiny creamy-green flowers and pinkish-green or outright-red stalks to brighten the perennial border.

I plant rhubarb at the edge of my herb garden, where it belongs as an “herb” in its own right. Its broad foliage contrasts pleasingly with the generally tinier leaf structure of other herbs. I’ve planted it near *Calamagrostis arundinacea* ‘Karl Foerster’ to add contrast and interest to the 4- to 5-foot

*continued*





Blooming young rhubarb planted with *Calamagrostis arundinacea* 'Karl Foerster' adds contrast to the tall grass clumps.

grass clumps. There are strictly ornamental varieties of rhubarb, difficult to find, so I think of garden rhubarb as I do any other perennial, interplanting it as edible landscaping.

### culture

Rhubarb can be grown up to Zone 3. It likes cool, moist summers and winters that freeze the ground a few inches deep. The red color of the stalks intensifies as temperatures drop. Plants get taller in cool areas. Here, in our hot Maryland summers, and mild winters, mine grow up to 2½-3 feet.

- Plant roots in full sun and in rich, well-drained soil (pH 5.0-6.0 is best), 3 feet apart. Dig a hole 2 feet deep and 2 feet across; put in a 6- to 8-inch layer of compost or manure. Add roots and fill in with soil. To help prevent rot, plant the crowns level with the soil. Top dress with manure or 5-10-5. Mulch well.
- Top dress with manure or 5-10-5 each spring. Rhubarb loves manure. It's hard to overfertilize it, as it has a hearty appetite.
- Moisture is most important to rhubarb. You may need to water it during dry spells.
- At the same time, too much moisture might precipitate rot (foot rot or phytophthora crown rot). Here in Maryland, late in our hot humid summer season, I've oc-

casionally noticed some rot. One year when it affected my largest plant badly, I simply removed the affected parts and replanted it in the same spot. I then harvested a perfectly fine rhubarb the following spring.

As usual, prevention is best. Try planting rhubarb in raised beds. Also, I was taught not to cut stalks from the plant. Instead, I remove flowering stalks before they bloom. With experience, you'll recognize them easily as they're round rather than concave like the other stalks. If you cheat, as I do to enjoy the ornamental value of the rhubarb flower, allow one flowering stalk to remain on each plant. It doesn't seem to harm my plant's vitality.

- After the plants are three years old, you may divide them in the fall into 4-8 parts.
- Stalks may be harvested from the plants from the second year on. Twist sideways and pull leaf stalks from the plant; they separate easily, like pulling stalks from celery. I haven't found that to be the case with the flowering stalks, which are round and hollow, not celery-stalk shaped. I've been known to cut them from the plant in desperation. No harmful effects are apparent. Harvest until hot weather arrives.
- Enjoy rhubarb in winter by growing it in your basement. Dig up some roots (or use up extra roots discarded from dividing

plants); plant in tubs, covering the crowns with two or more inches of soil or sand. Allow them to sit outside until they freeze. Bring them inside to a warm basement or greenhouse. Cover tubs with a box to exclude the light. Keep moist, at 50-65°F. Harvest stalks in four to five weeks.

- Rhubarb has no significant insect or disease problems. In my garden, Japanese beetles prefer rhubarb second only to roses. The damage that occurs when I've been negligent about removing the beetles, however, only affects the plants cosmetically.

### varieties

There are a number of culinary rhubarb varieties available today. Old standbys include 'Victoria,' 'Valentine,' 'Canada Red,' and 'MacDonald.' Last year I planted new 'Cherry Red,' advertised as sweeter, and red, inside and out. It's too soon to tell how it will compare in taste to my original variety, 'Victoria.'

Ornamental species, popular in England, are rarely grown in this country. *Rheum alexandrae* has huge papery yellow bracts. *R. palmatum rubrum* has pinkish red stalks, which emerge as cerise, with pink, red and purple leaves, fading to green after flowering. *R. palmatum atrosanguineum* has crimson flowers and dark red, almost black foliage.

### SOURCES

Rhubarb plants are readily available at your local garden centers and:

W. Atlee Burpee & Co.  
Warminster, PA 18974  
'Victoria,' 'Valentine,'  
'MacDonald'

Wayside Gardens  
1 Garden Lane  
Hodges, SC 29695-0001  
'Cherry Red'

Andre Viette Farm & Nursery  
Star Route 608, Rte. 1  
Box 16  
Fishersville, VA 22939  
*Rheum palmatum* 'Tanguticum'

J.W. Jung Seed Co.  
Randolph, WI 53957  
'Valentine,' 'Canada Red'

Donna Bickley's articles have appeared in *Green Scene*, *Flower and Garden*, and *The Weekend Gardener*. She and her photographer husband, John Bickley, write a monthly gardening column for a local community newspaper.



# LETTERS TO THE EDITOR

## Bald Cypress

I read the Jan./Feb. '91 issue of *Green Scene* with great pleasure. Your pages share the pleasures of genuine gardeners, and I'm grateful for their company.

One question — can those bald cypress (p. 20) really have been collected just three years ago? Amazing.

Mark Kane, Associate Editor  
*Fine Gardening Magazine*  
Newtown, Ct.

## The Editor replies:

Whoops. Mark, the sentence should have

read: "The more than 25 collected trees were planted in 1988 by Jim Fritchey and Dick Wild.

## *Buddleia asiatica*

The *Buddleia asiatica* referred to in Cheryl Monroe's article "Forcing Cut Branches for Bloom" (Jan. *Green Scene*), is a species with white flowers rather than the stunning blue flowers she mentions.

A native of the East Indies, *Buddleia asiatica* is probably hardy to Zone 8 or 9. In the Delaware Valley it is too tender for

cultivation outdoors; however, it is an attractive shrub for the greenhouse. Its growth is a little informal but its ungainly habit is balanced by the wonderfully sweet perfume produced by the flowers throughout the winter and early spring.

As *Buddleia* species are easy to propagate, I recommend taking cuttings in spring and discarding the mother plant once the cuttings have rooted.

Christopher Woods  
Chanticleer  
Wayne, Pa.

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*Miscanthus sinensis*  
'Variegatus.' See page 11.



# GREEN SCENE

THE MAGAZINE OF THE PENNSYLVANIA HORTICULTURAL SOCIETY • MAY/JUNE 1991 • \$2.00



*Garden Club  
of Springfield  
Inspires PennDOT  
Median Strip  
Plantings*  
See page 4

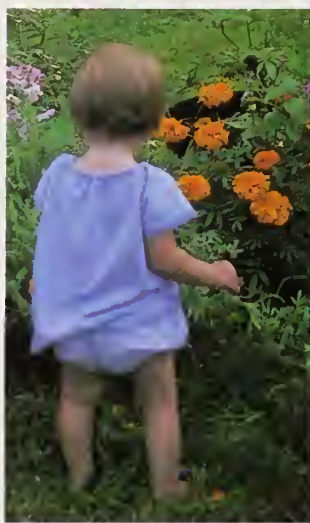




9.



26.



30.



**Front Cover:**

PennDOT planting blooms in the summer of 1990 on the median strip on Rt. 202 near Great Valley exit. This planting was inspired by the Garden Club of Springfield.

**Front Cover:** photo by Jane Grushow

**Back Cover:** photo by John C. Gouker

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Volume 19, Number 5 May/June 1991

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# They Pin Another Medal on Jim Wells

by Jean Byrne



*Narcissus romieuxii albidus*

photo by James S. Wells, from *Modern Miniature Daffodils* by James S. Wells © 1989 by Timber Press, used with permission

When we received a copy of the book *Modern Miniature Daffodils* (Timber Press, Portland, Oregon, 1989), we asked Kathryn S. Andersen, president of the American Daffodil Society and still an ADS board member, to review it. We asked Andersen to review the book because she has a no-nonsense approach to the truth when you solicit her opinion, and because the British-born Jim Wells was well-known as a nurseryman in Red Bank, New Jersey, from 1956 to 1980. Wells specialized in the production of rhododendrons, as well as deciduous and evergreen azaleas.

What makes *Modern Miniature Daffodils* particularly interesting is that it reflects Jim Wells's interest in miniature daffodils, which he began to pursue in Red Bank after his retirement from active nursery work in 1979.

Andersen's enthusiasm about the book pleased us (see page 12) because her interest in the subject is no small matter; this spring for the fourth year in a row, she's gathering up a fellow traveller or two to go to Spain to study populations of species daffodils to see if they are endangered from damming, building projects or poaching.

Because Kathy raved about Jim's "incredible" photos and their value: "identi-

fication has suddenly emerged from the Dark Ages. Even without text, the pictures are of such quality that closely allied species may be readily distinguished," we knew we had to publish some of the photos.

To acquire the photos we tracked Wells from Red Bank, New Jersey, to his new home in New London, New Hampshire, where he moved in December, 1990. He sent us a generous collection of the photos from the book. You would never know, speaking with this soft-spoken man, that he is an internationally acclaimed planstman. In 1976, he received the PHS Distinguished Achievement Medal: "Concentrating in the field of plant propagation, traditionally one where each practitioner jealously guarded the secrets of his art, Mr. Wells was one of the first to take the opposite course. During his 30 years of activity as a propagator and nurseryman, he has always been ready to answer questions or demonstrate techniques. His crowning achievements along this line are the book *Plant Propagation Practices*, which he wrote and the International Plant Propagators' Society, of which he was a founder and first President."


Sixteen years after the PHS citation, at the 40th Annual Meeting of the Inter-

national Plant Propagators' Society in December 1990, IPPS dedicated Volume 39 of its current proceedings to Wells, and honored him with the International Award of Honor, given by all their Regions worldwide for outstanding accomplishments in the field of plant propagation. Wells was acknowledged for his participation in pioneering mist propagation, hormone treatment of cuttings, new plant rooting media and the uses of plastics in covering greenhouses. The dedication notes that in "1973 Jim hired a Boeing 707 plane and encouraged the British and Irish members to organize four concurrent nursery tours in England and to hire a Tristar plane for an optional weekend in the Netherlands. This tour probably did more to develop understanding and trust among the Regions than any other activity."

When we spoke to Wells in New Hampshire, he was called from his new greenhouse, where he continues to collect and sort species and miniature daffodils, to determine their correct botanical names, to develop information about new discoveries in the field and to do some hybridizing. We were happy to hear Wells has been planning a garden at his new homestead, the sixth in his active lifetime.



# WILDFLOWER FAIRIES INVADE

 by Mary Lou Wolfe



The Garden Club of Springfield planting daylilies at Rt. 1 and Old State Road exit (Oct. 1987).



# PennDOT's MEDIAN STRIPS

photo by Sandy Manthorpe



**I**t was like being pregnant for five years," said Media's Sandy Manthorpe. Manthorpe was reminiscing about getting wildflowers planted in some of the Philadelphia area's highway median strips. The birthing occurred one May morning in 1988 when Jeff Jabco, at that time an agent for Penn State's Cooperative Extension Service, passed seeded plots on his way to work and phoned to report a blue haze on four areas near the intersection of Routes 1 and 252. Sandy alerted the earth grandmother, Evelyn Hett, and with photographer Liz Ball, they inspected the sites clearly coloring up as bachelor buttons (*Centaurea cyanus*) burst into bloom. Hett, for 16 years the Pennsylvania Horticultural Society's Flower Show secretary and dubbed by Ed Lindemann "Mother Superior of the Flower Show" had, after retirement in 1980, poured some of her astounding energy and organizational skills into her lifetime dream of seeing flowers bloom along Pennsylvania's roadsides. In her Garden Club of Springfield, as state chair of "Operation Wildflower" Hett persuaded new member Sandy Manthorpe to get involved. Manthorpe says, "Evelyn knows what your capabilities are before you know. She doesn't push you, she just nudges you along." Sandy was a savvy choice as it turned out. Sandy's husband, Spencer Manthorpe, became PennDOT's chief counsel in the Thornburgh administration in May, 1983. The Pennsylvania Department of Transportation oversees all aspects of Pennsylvania's highways.

Spencer Manthorpe had not been in his job three days before Evelyn Hett began a quiet, firm series of phone calls and letters. She discussed with him the possibilities of PennDOT's substituting wildflower seed for grass seed at selected sites. Although Spencer Manthorpe was much too busy to push Evelyn and Sandy's project, he had long been interested in horticulture and offered suggestions for people to talk to in state government. Those leads greased the wheels. Sandy said, "You could waste your whole life trying to figure out who to go to next." Traveling with Spencer to conventions in other states gave Sandy contacts with wildflower projects already underway in Texas, Michigan and Delaware. Sparked

by members of its State Garden Club Federation, Delaware had started a planting and site evaluation program in the early 1980s. Manthorpe and Hett visited; they heard about successes and failures. For three years they researched plantings and applied for grants (without success) and talked to people about starting a Pennsylvania program.

Finally a key contact was made. In 1987 Rhonda Kautz Shughart and Lois Dostalick of PennDOT's "Keep Pennsylvania Beautiful" program spoke to the Garden Club Federation of Pennsylvania about its "Clean Up Day" (4th Saturday each April). They put Sandy in touch with Frank Gansz, Roadside Specialist for PennDOT's District 6. When Manthorpe contacted him in his roadside office trailer, Gansz sighed and said, "Here's another lady who wants to plant flowers on my roadside." Manthorpe, however, was a well prepared and persuasive lady who convinced Gansz that substituting flowers for grass would complement the "Keep Pennsylvania Beautiful" program. Gansz soon engineered permission for the Garden Club of Springfield to do a trial planting along Rt. 1 at the Media bypass, and had the planting area prepared with a spraying of Round Up.

Hett and Manthorpe decided to start with something absolutely surefire. Tyler Arboretum in nearby Lima was redesigning one of its collections and needed a home for 5,000 hybrid daylilies. *Hemerocallis* can hardly be called a wildflower but is one of the hardiest and most dependable perennial bloomers. On Oct. 7, 1987, memorable as the day the stock market crashed, Garden Club of Springfield volunteers along with their support group christened "Male Mulchers" removed Round Up kills and spaded in 2,000 daylily clumps. PennDOT provided "road control" (to slow down gaping motorists) and press coverage. This heavily traveled site bridges Springfield and Upper Providence townships. Over a two-year period all 5,000 daylilies were planted and now, after a few years' growth and readjustment provide a blaze of yellow and orange from June to September.

The success of the daylily planting not only helped win for the Garden Club of Springfield the Garden Club Federation of



artwork by Tricia C. Brown



photo by Jane Grushow

Top insert: Tricia C. Brown's trillium design won the PennDOT statewide competition for a sign identifying wildflower plantings and will be installed this summer, along with one announcing a \$300 fine for picking.

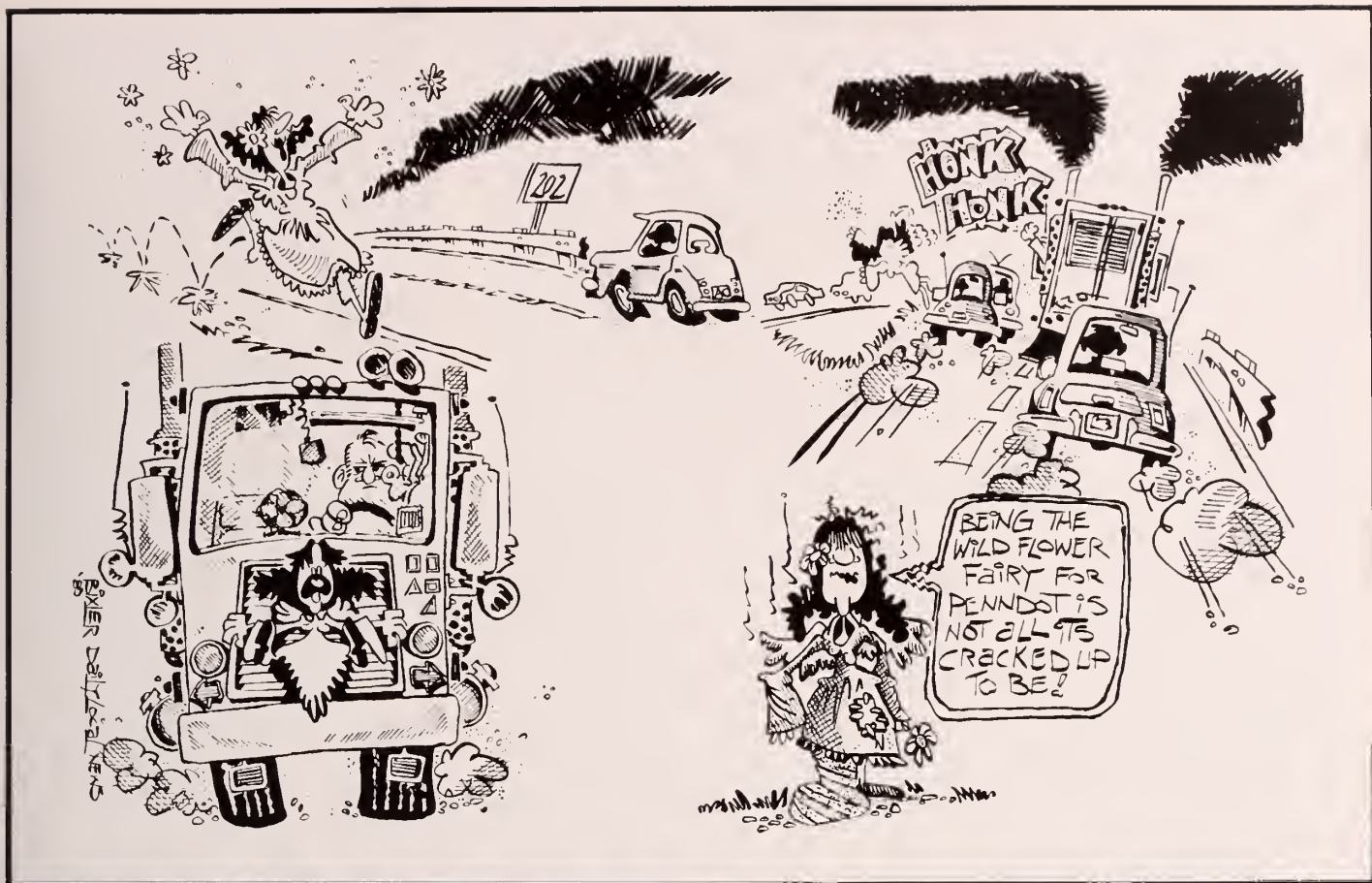
Top: The second year of bloom (1990) on the median strip on Rt. 202 near Great Valley exit. PennDOT planted these wildflowers: corn poppies (*Papaver rhoeas*) and cornflowers (*Centaurea cyanus*), inspired by the Garden Club of Springfield's earlier efforts elsewhere.



photo by Liz Ball

Bottom: Brian O'Neill of Weeds Inc. (center) talks with Sandy Manthorpe before he plants seven acres at the Downingtown and Valley Forge interchanges in December 1990. To left, Dick Rowland and Michael Haney, turnpike personnel. Manthorpe was liaison between the Garden Club of Springfield and PennDOT.





vania Governor's Trophy (and its \$500 award) but proved to PennDOT's Frank Gansz that flowers in his grass cut down on littering, spring mowing and mightily pleased the traveling public. In 1988 PennDOT funded a pilot program to plant wildflowers in 19 plots, an acre each, in Delaware, Chester, Bucks, Philadelphia and Montgomery counties. The Garden Club of Springfield contributed its \$500 prize to the seed purchase pot but what really made the project fly was roadside management contractor Brian O'Neill's involvement. Using information gained by a seed research project carried on at Penn State University under contract to PennDOT, O'Neill and Gansz chose species that could survive in full sun without watering or fertilizing and that reseeded themselves. They avoided species that already grew along Pennsylvania highways (for which the term "wildflowers" might be more appropriate). PennDOT's aim was to provide, on a limited budget, a dependable succession of color from May to frost using annuals and perennials that have the capacity to reseed themselves. The species chosen can be described more accurately as "meadow flowers" as few are native to Northeastern Pennsylvania. Each fits the requirement that it grow tall enough to be

seen by whizzing motorists but not high enough to impede a driver's view of the road. The 19 plots, each prepared and seeded slightly differently, were monitored and evaluated all summer. The mix that proved most colorful and long lasting and that is currently being seeded is listed in the box at the end of this article.

### *the wildflower fairy*

When Manthorpe's five-year horticultural pregnancy ended in May of 1988 with the "bluing" of bachelor buttons on a Delaware County median strip, Sandy, Evelyn and Liz Ball were not the only ones to take notice. Motorists all over the five-county area were doing double takes. Roadside contractor O'Neill says "People were pulling over on very dangerous highways to tell our crews how great the flowers look and what a great job they were doing." Worse than that, motorists decided that flowers appearing in profusion in such unlikely places were gifts on above. They stopped and picked, sometimes by the bucketful! An editorial in the *Chester County Press* commented on flower problems caused by motorists stopping near Kennett Square on the Rt. 1 Bypass: "There is no sign posted saying 'Free Flower Shop — Stop, Pick and Go.'" Someone in Dela-

ware County reported seeing a limousine stop while the driver plucked a bouquet for his passengers, a bridal couple. PennDOT received a flood of enthusiastic letters, one of which said "I hope I get stuck in traffic." The West Chester *Daily Local News* ran a cartoon by Bixler entitled "Being a wildflower fairy for PennDOT is not all it's cracked up to be." Spencer Manthorpe bought the original and had it framed for wildflower fairy, Sandy.

After the obvious success of the 1988 plantings and the minor traffic and picking problems that ensued, Frank Gansz decided that a special sign should be created to identify wildflower plantings and that this sign should be paired with one proclaiming the \$300 fine for picking. With help from the Garden Club Federation of Pennsylvania, PennDOT sponsored a statewide contest. The winner was a stunning painted trillium design created by botanist Tricia C. Brown. The dual signs will be installed this summer.

### *a wildflower mix for homeowners*

One February morning I visited Brian O'Neill to ask about his planting techniques and to hear about his new offshoot business that offers "Wild Meadows Wildflower Mix" to homeowners. Although my ap-

*continued*



## WILD MEADOWS WILDFLOWER MIX

Common Name	Botanical Name	Kind	Color	Growing Height (Feet)	Blooming Period (Month)	% of Mix
Bachelor's button	<i>Centaurea cyanus</i>	A	Blue mix	2-3	3-5	10%
Black-eyed susan	<i>Rudbeckia hirta</i>	A	Yellow	2-3	6-8	10%
Blanket flower	<i>Gaillardia aristata</i>	P	Red-Yel	2-2	5-10	8%
Blue flax	<i>Linum perenne lewisii</i>	P	Blue	1-2	5-9	3%
Catch fly	<i>Silene armeria</i>	A	Pink	1-2	5-9	2%
Chamomile	<i>Anthemis tinctoria</i>	A	Yellow	1-1	6-10	4%
Corn poppy	<i>Papaver rhoeas</i>	A	Mix	2-2	4-7	5%
Cosmo	<i>Cosmos bipinnatus</i>	A	Red	2-3	4-10	3%
Dame's rocket	<i>Hesperis matronalis</i>	P	Purple	2-3	5-8	3%
Gold yarrow	<i>Achillea millefolium</i>	P	Yellow	2-4	5-10	5%
Indian blanket	<i>Gaillardia pulchella</i>	A	Red-Yel	1-2	5-9	2%
Ox-eyed daisy	<i>Chrysanthemum leucanthemum</i>	P	Yel-white	1-2	6-8	4%
Painted daisy	<i>Chrysanthemum carinatum</i>	A	Multi	1-2	4-6	5%
Plains coreopsis	<i>Coreopsis tinctoria</i>	A	Red-Yel	1-3	5-9	10%
Prairie cone flower	<i>Ratibida columnifera</i>	P	Yel-Red	1-2	5-9	10%
Purple cone flower	<i>Echinacea purpurea</i>	P	Purple	2-3	5-10	8%
Scarlet flax	<i>Linum grandiflorum</i> 'Rubrum'	A	Red	1-2	4-9	4%
Tick seed	<i>Coreopsis lanceolata</i>	P	Yellow	2-3	5-8	4%

A = Annual  
P = Perennial

## Reading

"Annual Meadow Gardening: A View from Chanticleer," Christopher Woods, *Green Scene*, May, 1987

*National Wildflower Research Center's Wildflower Handbook*, Annie Paulson editor, Monthly Press, Austin, Texas, 1989

*Natural Landscaping: Designing with Native Plant Communities*, John Diekelman, McGraw Hill, New York, 1982

*The Prairie Garden: 70 Native Plants You Can Grow in Town or Country*, J. Robert Smith, University of Wisconsin Press, Madison, Wisconsin, 1980

*Wild Gardening: Strategies and Procedures Using Native Plantings*, Richard L. Austin, Simon & Schuster, New York, 1986

*The Wildflower Meadow Book, A Gardeners' Guide*, Laura C. Martin, Globe Pequot Press, Chester, Connecticut, 1990

pointment was early in the morning during what I considered a slow month for high-way planters, the Yeadon office was humming. I had plenty of time to take in the scene while Brian juggled phone calls and messages. Finally free to talk, O'Neill said that vegetation management along limited access highways and commercial lawn care under contract to landscaping firms constitutes over 90% of his "Weeds, Inc." business. Although wildflowers represent less than 5% of his total operation, he talks about them with 100% enthusiasm. The planting sequence O'Neill follows after plots have been selected involves the application of Round Up in September or early October when, he explains, "sugars are going from upstairs to downstairs." Round Up or some other herbicide is necessary to eliminate competing weed seeds. The areas are mowed three to four weeks after Round Up has done its job, with the mower set as close as possible (1/2 inch) to soil. After Thanksgiving the soil is "sliced" using a scarifier that makes shallow grooves 1/4- to 1/2-inch deep at 3-inch intervals. The effect is like a stiff raking, not an upheaval of soil that would bring weed seeds to the surface. The plot is marked with orange flags, and wildflower seed mixed with hard fescue is applied with a cyclone-type spreader. Fescue used at 8 to 10 pounds per

acre is the back-up cover crop. If drought should smite the wildflowers, tough fescue will green up the area to a height of just 5 inches and control erosion.

***Someone in Delaware County reported seeing a limousine stop while the driver plucked a bouquet for his passengers, a bridal couple.***

O'Neill said that as the press took notice of colorful PennDOT plantings along Rts. 202, 95, 401 and Rt. 1, requests for a homeowner's mix poured in. Meadow gardening has been a hot topic in horticultural literature for a decade but here were flowering meadows that thousands of motorists saw over a period of five months and wanted to try in their back yards. O'Neill's firms received hundreds of requests so he developed a slightly different mix (18 species and no hard fescue), which he calls "Wild Meadows Wildflower Mix." The mix includes instructions similar to his commercial procedure. He urges gardeners trying it out to be patient, to expect a few weeds and to refrain from "tramping around until plants are large enough to be identified." (Information about the mix is listed above.)

The wildflower plantings first sparked in Pennsylvania by Evelyn Hett and Sandy Manthorpe have been so successful that PennDOT has completely taken over the program the Club started and expects to plant 25 acres of new sites in District 6 this year. National legislation now stipulates that one-quarter of 1% of the total landscaping expenditure for Federally funded highway construction must go to wildflower plantings. They have proved their value. The indefatigable Sandy Manthorpe has started negotiations with the Pennsylvania Turnpike Commission to do wildflower plantings at the Valley Forge and Downingtown interchanges. In July of 1989 Manthorpe and Hett masterminded an "Operation Wildflower" workshop held in Ridley Creek State Park featuring distinguished speakers and attended by 150 wildflower enthusiasts. Sandy and Spencer Manthorpe are co-chairs of the 1992 National Convention of National Council of State Garden Clubs. The site is Philadelphia. Don't be surprised if parts of the route from the airport to Center City begin to blue up and pink up and explode with daisies come May of 1992. Evelyn's dream is coming true.

Photographer/writer Mary Lou Wolfe is a frequent contributor to *Green Scene*.



# Minor Bulbs: A Major Attraction

 by Amalie Adler Ascher

**T**he Dutch call them the minor bulbs, and yet, minor is hardly the adjective to describe their display. Minor bulbs, in fact, can produce some of the most flamboyant flowers in the plant kingdom, large in size, flashy in color and, most of all, exotic in form.

The Dutch rank bulbs as major or minor

by the number exported, says Dave Caras, associate director of the Netherlands FlowerBulb Information Center in Brooklyn, New York. In 1990, the Netherlands produced 63 kinds of bulbs on 30,000 acres, totaling 9½ billion bulbs. About two-thirds of the crop was shipped to customers the world over.

*continued*

photo courtesy of Netherlands FlowerBulb Information Center



Peruvian daffodil



The United States marketed 1.6 billion bulbs last year, Dave Caras says. Of that figure, 25% derived from the country's own growers (who for the most part are located in the Pacific Northwest and Holland, Michigan), 60% — or one billion — were imported from the Netherlands, and 15% from all other countries including Great Britain, Portugal and Israel. In the Netherlands bulbs are grown, not by large commercial producers, but on small family farms.

Number one on the list of major bulbs, which includes 14 kinds, with 1.8 billion bulbs exported, is tulips. They're followed in order by gladiolus, irises, crocuses, lilies, daffodils or narcissus, anemones, hyacinths, freesias, alliums, muscari or grape hyacinths, oxalis, dahlias and galanthus or snowdrops.

It is not hard to understand why these bulbs are so popular, for they all lend themselves so well to mass display. But for close quarters where there's room for only one or two bulb-bearing flowers and you want the effect to count, none of the above can hold a candle to crown imperial (*Fritillaria imperialis* 'Aurora'), to pineapple lily (*Eucomis bicolor*), the Peruvian daffodil (*Hymenocallis narcissiflora*), or *Lycoris*, their rating as "minor" bulbs to the contrary. A single specimen of any of these standing alone gives you cause to stare in wonder.

### the pineapple lily

As is often the case with plants I get so excited about, I saw *Eucomis bicolor* (the pineapple lily) for the first time many years ago in a flower arrangement. To give you an idea of the impression the flower made on me, I can still visualize it, but I don't remember anything else in the composition.

The pineapple lily, as you might expect, grows in the shape of a pineapple. One flower, typically reaching 2 to 3 feet tall, is practically fruit-size. It is made up of small individual greenish-white florets tightly clustered around a hidden stem. Like a pineapple, the eucomis bloom is topped with a rosette of foliage. The rest of the leaves, spreading at the base of the plant, resemble those belonging to the amaryllis.

The reason the word "bicolor" is attached to the *Eucomis* name is that their coloration varies so greatly there's no telling exactly what it will be until they bloom. The stem might be red or green, the leaves solid red or green or a striping of the two, or the blossoms edged with purple or red.



*Eucomis bicolor*, pineapple plant

*Eucomis* is a tender bulb that flowers in the summer. It's therefore a bulb that's planted in the spring and taken up before cold weather sets in. As a pot plant during the winter, it's an eye-popper. It holds its bloom for up to three weeks, the same as it does in the ground. As a cut flower (the way I first saw it) it's wonderfully long-lasting too.

Because *Eucomis* can be used interchangeably in the garden in the summer or in the house in the winter, you shouldn't assume you can have it both ways in the same year. After blooming outside, it won't follow up with an encore indoors a few months later. The next year, though, after it's had time to rest, you can convert it to the environment you choose.

Curious to learn more about the background of the *Eucomis*, I asked Caras for a source. He told me to call Dr. August DeHertogh, a professor of Horticulture at North Carolina State University in Raleigh, who for the past 25 years has been doing bulb research in the United States and Canada for the Dutch flower bulb industry.

My timing was perfect. DeHertogh was just winding up a study on *Eucomis*. "We think it's a bulb the industry needs to take a closer look at," he said. "It's an under-marketed product." (The Dutch, last year, exported 45,087 *Eucomis* bulbs to the United States, Caras said.) "As a double-use-type plant," Dr. DeHertogh added, "we're experimenting with it for the first time for reverse production."

In the trials he ran this year, *Eucomis* (he

also refers to it as king's flower) bloomed 80 to 90 days after planting. By that reckoning, you'd still have time to plant bulbs in the ground for blossoming this summer.

To hurry development along a bit, give plants a southern exposure where they'll receive warmth and reflected heat, DeHertogh says. Because you'll be lifting the bulbs before frost, set them a couple of inches below the soil surface. For forcing in a container where they make a beautiful plant, DeHertogh recommends letting the nose of the bulb stick up an inch above the pot.

Incidentally, when you cut *Eucomis* for display in a vase, catch it as the six to eight florets at the bottom of the stalk are opening. The others will continue to unfurl in turn, thus keeping the flower in bloom for two to three weeks.

### the Peruvian daffodil

The Peruvian daffodil, otherwise known as *Ismene*, is another of the summer-flowering bulbs that made me want to grow it the moment I saw it. If you stretched your imagination a bit, you might see a faint resemblance between it and regular daffodils. The Peruvian daffodil's botanical name, in fact, is *Hymenocallis narcissiflora*, and both plants belong to the *Amaryllis* family.

*Ismene*'s large white or sulphur yellow fragrant flowers quickly arouse your interest. Borne in clusters of two to four blossoms at the top of 2-foot tall stems,





*Fritillaria imperialis* 'Aurora,' Crown Imperial

they're composed of a daffodil-type cup or trumpet surrounded by fringed, long, narrow, curling petals giving rise to their common name, spider flower.

With 74,150 bulbs exported by the

Netherlands to the United States, *Ismene* falls in the minor class too. Like *Eucomis*, bulbs can be forced for indoor display. Outdoors, they should be planted in a sunny, well-drained location after the

weather has turned warm for good. Bulbs are large, so set them with the nose 3 to 4 inches underground. Flowers shoot up fast and may bloom in as little as six weeks. Normal blooming time is July and August. The glossy, strap-like foliage lasting practically until bulbs are lifted, is another of the plant's assets.

### *Fritillaria*

I never see *Fritillaria imperialis* that I don't gasp in admiration. The bulbs may be minor in economic importance (last year, the Dutch exported 926,615 to the United States), but in the garden, the flowers are a major attraction. The plant's popular name — crown imperial — suggests as much. Perched atop 3- to 4-foot stems, blooms might be red, yellow or orange. Arranged in a circlet of large bells, they hang under a coronet of green leaves. The plant smells like a skunk, but if you don't lean too close you won't notice it.

As a hardy bulb, blooming in May, *Fritillaria* is planted in the fall. On receiving bulbs, plant them without delay. They respond poorly to dehydration, and the damage may be fatal. Bulbs are large and according to DeHertogh should be set with the base 8 inches below the soil line, the depth he recommends for all large bulbs wintering over in the ground.

### *Lycoris*

In late summer, *Lycoris*, with its large, pink, lily-like blossoms, is a star performer in the garden, minor though it may be in sales. At Ladew Gardens in Monkton, Maryland, a mass planting of *Lycoris* is one of its August attractions. Blooms are long lasting (from two or three weeks) as are the bulbs once they've become established in the ground. Foliage appears in early spring long before the flowers bow in, then dies off leaving their stems bare. The plants have thus acquired the name, "naked ladies."

A story Ladew staff members like to tell relates the circumstances under which the bulbs arrived. Harvey Ladew, owner and occupant of the house, who also developed the gardens and in whose memory the estate is preserved, encountered the flowers while visiting a friend. So smitten was he with them that on returning home, he dashed off a letter. "Please send me 50 naked ladies," he wrote. "I ask that they be of good form and disease-free."

Amalie Adler Ascher is a frequent contributor to *Green Scene*.

### Books

Books on bulbs make fascinating reading. Among the latest to be published are: John E. Bryan's *Bulbs* (Timber Press, Portland, Oregon, 1989, \$120), a two-volume opus illustrated in color and acclaimed by the experts as the definitive work on the subject; *The Random House Book of Bulbs*, by Roger Phillips and Martyn Rix (Random House, New York, 1989, \$21.95), valuable as a reference for identifying a wide assortment of bulbs, all pictured in color; and two Taylor Pocket Guides, *Bulbs for Spring*, and *Bulbs for Summer* (Houghton Mifflin; \$4.95 each), handy for their thumb-nail sketches and brilliant color photos.

### Mail-order Sources for Minor Bulbs

*Eucomis bicolor* (pineapple lily)

Breck's  
6523 North Galena Road  
Peoria, IL 61632  
(309) 691-4616

Dutch Gardens  
P.O. Box 200  
Adelphia, NJ 07710  
(201) 780-2713

The Plumeria People  
P.O. Box 820014  
Houston, TX 77282  
(713) 496-2352

John Scheepers, Inc.  
RD #6, Phillipsburg Rd.  
Middletown, NY 10940  
(914) 342-1135

*Hymenocallis narcissiflora*  
(Peruvian daffodil)  
Carroll Gardens  
444 East Main Street  
Westminster, MD 21157  
(301) 848-5422  
Catalog \$2 deductible with order.

Dutch Gardens (see above)

John Scheepers (see above)

*Fritillaria* and *Lycoris* are generally available in garden centers.

### Other Source for Bulb Information

Netherlands FlowerBulb  
Information Center  
162 Montague Street  
Brooklyn, NY 11201



# MODERN MINIATURE DAFFODILS:

photos by James S. Wells, from *Modern Miniature Daffodils* by James S. Wells © 1989 by Timber Press, used with permission



## Books & The Green World

*Modern Miniature Daffodils: Species and Hybrids* by James S. Wells (Timber Press, 1989; Hardcover \$34.95)\*

Jim Wells, well known to the horticultural world for his contributions in the area of woody plants, has in recent years turned his efforts towards unravelling the secrets of the culture and identification of miniature daffodils. Heretofore, the only reference on this subject was Alec Gray's slender monograph of 1955, which has been out of print for almost 30 years.

Mr. Wells's book fills a serious gap in the daffodil grower's library and, at the same time, is a work of art attractive enough for coffee table display. Almost every page is supplied with one or more of the author's own professional macro-photographs. The quality of the pictures alone is enough to recommend this work to anyone who enjoys the casual perusal of a beautiful book.

The author grew most of his miniature daffodils in pots in a small greenhouse attached to his Red Bank, New Jersey, home. The majority of the photographs show daffodils grown inside in pots rather than outside in the garden. In some instances, orangish colors are brighter than outdoor culture would produce, and photographs of a couple of hybrids are atypical of the cultivar as grown in the garden.

His photographs of the species are incredible! For this reviewer who has struggled endlessly in the field with obscure keys from modern Portuguese or 19th century English literature, identification has suddenly emerged from the Dark Ages. Even without text, the pictures are of such quality that closely allied species may be readily distinguished. The crisp text aligns the reader with current nomenclature and presents a complete description of each entry. The author has worked closely with John Blanchard, chairman of the Royal Horticultural Society Narcissus and Tulip Committee, in establishing identification of the more obscure species. The book has been further enriched by fine colored

\**Modern Miniature Daffodils* is available through the Pennsylvania Horticultural Society Library.





# Species and Hybrids

by Kathryn S. Andersen



sketches of the species by expert field botanist Michael Salmons of England. For the first time, this wealth of information on the species is drawn together in one place and clearly presented.

In recent years, the growing of miniature daffodils has become popular among many gardeners, including those with limited growing areas. This book deals comprehensively with modern miniature hybrids, clearly indicating hardiness and ease of culture. The novice and expert alike can now be guided in selection of those cultivars best for our Delaware Valley gardens. Mr. Wells's advice is sound for until he moved to New Hampshire this year he was our very near neighbor in Red Bank, New Jersey.

Kathryn S. Andersen is past president of the American Daffodil Society and a current member of the ADS board.

1. *Narcissus bulbocodium pallidus*
2. *Narcissus* 'Jetfire'
3. *Narcissus triandrus capax (loiseleurii)* 'Arctic Morn'
4. *Narcissus* 'Snipe,' one of Jim Wells's favorites; a dainty flower that grows well.
5. *Narcissus* 'Hawera'





# Roses and Lilies Among the Mercedes-Benz and Peugeots

 by Louise Carter

*A model garden for a commercial property.*





In summer, the parking lot of an automobile dealership and repair shop is an unlikely spot to discover a garden in full bloom, one as lush and rich as an impressionist painting. But Carson-Pettit on Lancaster Pike in Devon, Pennsylvania, close to the corner of Waterloo Road, provides its visitors and employees with just such a pleasant surprise. Shrub roses, towering lilies, liatris and daylilies, phlox and hostas greet you as you turn in off the busy avenue.

Last July when I paid a visit to Carson-Pettit, I was entranced by the harmony of the soft yellows, the peach and orange tones of the many blossoms that greeted me that morning. As I stood there, the hot asphalt, the metal and chrome, faded away and I felt I might be in the stable courtyard of a country manor house. Carriages might have stood on the paving and the bays to my right that held automobiles under repair might just as well have been horse stalls.

This garden is fortunate to have for its background an architecture of simple, handsome style coupled with the straightforward statement of railroad tie retaining walls. Together they define the space, providing an unobtrusive setting on three sides for the garden that has been designed to fill the center. In turn the richness of the landscaping and the floral display enhance and enliven an otherwise somber spot.

There is a 6-foot drop in elevation across the site. Highest at the eastern boundary, the property tapers off to ground level at the main showroom building to the west. To the east is an upper parking area of white gravel nicely shaded by tall trees that included tulip poplars (*Liriodendron tulipifera*), and a sugar maple (*Acer saccharum*) chosen, I expect, for their fall foliage color. A weeping cherry (*Prunus subhirtella* 'Pendula') that blooms in the spring, was swaying gently in the almost still air. This higher level is retained by a long railroad tie wall that steps down to a deep planting bed before stepping down again to the entrance level and lower parking area. A flight of tie steps flow gracefully down from the upper lot to a landing at the planting level and down again to the asphalt, dividing the length of the retaining wall in half.

In this border, almost 200-feet long, are planted tulips and daffodils for an early



Geraniums in a windowbox offer a touch of color against the asphalt landscape.

spring show, followed by the blues, lavenders and pinks of baptisia, iris and peonies, the chartreuse of lady's-mantle. Then the classic summer perennial border plants come into bloom: achillea, lilies, phlox and salvia. These, in turn, are followed by fall blooming asters, goldenrod and chrysanthemums. Biennial sweet william and various annuals add sparkle and color during gaps in the flowering sequence. The day of my visit in mid-July, 5-foot-tall species lilies and the polyanthus rose, 'The Fairy,' dominated the scene.

A pair of tall, columnar-shaped ginkgos (*Ginkgo biloba*) add height in the long border. Several boxwoods (*Buxus* spp.) are strategically placed to add winter interest, along with a pair of magnificent, tightly clipped blue atlas cedars (*Cedrus atlantica* 'Glaucua') espaliered against the upper wall, stretching at least 15 feet each on either side of the steps. Pachysandra edges the

length of the upper wall. A stately yucca, that day in full bloom, marked the far end of the border away from the street.

At the far rear corner of the long border, a break makes way for a driveway to connect the lower and upper parking lots. I walked up the gravel to enjoy the encircling trees. The wall picks up again at the corner as it starts to enclose the rear of the lot. Here the level begins to slope downward towards the east producing a gentle hillside. Under the shade of a zelkova tree (*Zelkova serrata*), yellow, pale orange and deep red daylilies glowed against a white picket fence.

Halfway across this rear line comes the two-story gable end of a garage crowned by a square clock tower, housing a Seth Thomas weight-driven clock. Again, a raised bed separates the building from the parking lot, this time retained by a stucco wall, which matches in color the building

*continued*

◀ A raised bed separates the parking lot and building. This end is filled with lavender-flowered hostas.





Top: *Coreopsis* sp.

Bottom: A flight of tie steps flows gracefully down from the upper lot dividing the length of the retaining wall in half.





walls. This bed holds two large, rounded pieris (*Pieris japonica*), one at either end, the rest of the bed being filled with a mass of lavender-flowered hostas, an elegant change from the more complicated pastel mixture of the long border. Another blue atlas cedar stands at the right corner of the garage, echoing the espaliers of the long border, showing two very different treatments of the same plant.

Returning along the western boundary, there is first a low free-standing wall, a variegated holly (*Ilex* sp.), then a wrought iron gate, allowing a glimpse of further parking and more foliage.

How did this commercial property become a courtyard garden? Credit for it belongs first to the owner of Carson-Pettit, Jim Carson, whose interest in trees and love of gardens is not limited to his own backyard. He has brought this interest to his workplace to share with his customers and employees, as well as passers-by.

Further credit belongs next to the flower designer, Joan Havens, who, having mastered the art of growing flowers to cut for her business, broadened it to include landscaping her brother's business establishment with a living display.

Joan has capitalized on the advantages of this multi-level setting. Overcoming the difficulties inherent in broad expanses of paving, in glaring reflected light, in intense heat, and the problems of exhaust fumes, she has grasped the opportunities offered by the raised planters that lift the flowering plants above the roofs of the cars, making them visible against the background of green trees and gray stucco walls, creating in the process an oasis of changing beauty.

As my stroll along the flowery border, comparing the blossom shapes and colors of the lilies that danced over my head in the raised planters, came to an end, I overheard a young couple beside me discussing the relative merits of a silver-blue coupe and a pale gray Mercedes sedan. Could there be a more delightful spot in which to make such a choice?

Louise Carter is a residential garden designer and garden writer. She is co-author of the *Gardener's Guide*, a series of regional gardening guides in calendar form, first published in 1986, and of *The Three Year Garden Journal*, published by Starwood, Washington, D.C. She lives and gardens in Wayne, Pennsylvania.

Top: Daylilies.

Bottom: Fairy roses.





# Moon

or decreasing moon (from the full moon to the new moon). Nothing should be planted on the exact day of the new moon or full moon.

## when to plant what

As with many folk traditions, regional differences exist, but most moon gardeners divide their time for putting seeds or young transplants into the ground in the following way: The first phase of the moon (from new moon to first quarter moon) is best for planting leafy crops with above-ground yields, such as lettuce, spinach, asparagus, broccoli, Brussels sprouts, cauliflower, celery, etc. The second phase of the moon (from first quarter moon to full moon) favors plants with above-ground crops and self-contained seeds, such as tomatoes, melons, squash, cucumbers, peas, beans, peppers, etc. The third phase of the moon (a waning moon from full to the last quarter) correlates darkness with underground crops such as onions, potatoes, turnips, radishes, parsnips, carrots, etc. The final phase of the moon (between the last quarter and darkness) is the least advantageous for putting seeds or transplants into the ground. That dark period of the moon should be used for destroying weeds and for pruning, since new growth theoretically occurs less rapidly with less ground water readily available.

An old agricultural tradition, moon planting was taken seriously in ancient times when the moon was watched more closely than it is today. One cynic suggests gardening by the phases of the moon was merely a way to plan the huge number of chores, a way to divide them into four manageable groups. Folklore and some scientists suggest differently.

*Organic Gardening* magazine reported a study in Poona, India, where "C.R. Karnick planted wild licorice in different beds at varying times of the lunar cycle. He found

**T**he first time I interviewed the late Nancy Howard, an herb expert, she hesitated to admit she planted according to the phases of the moon. But there was no doubt in her mind that moon planting worked. She pointed with pride to her comparison crops of peas. She had put one group of seeds in the ground during the second quarter of the March moon, and planted another group on the more traditional March 17th, St. Patrick's Day. The moon plantings outperformed the holiday peas by a mile.

Moon planting doesn't mean gardeners sneak outside at night and perform rituals with their seeds under the moonlight. It means they merely schedule their plantings according to the four visible phases of the moon.

Just as tides are higher during a full moon, so the ground water is higher (more saturated) during a full moon, according to moon planting advocates. And conversely, they believe there is less ground water available to tiny roots during the final phase of the moon, between the last quarter and darkness.

The broadest moon planting rules are simple: flowers and vegetables with crops above the ground should be planted during the 'light' or increasing moon (from the new moon to the full moon). Bulbs, root vegetables and plants with underground yields should be planted during the 'dark'



# Planting

that the time of plantings affects the entire morphology, flowering and fruiting of the plants."

*Flower & Garden* magazine, popular in the midwest U.S., publishes a moon chart at the beginning of each issue "for those gardeners who continue this long-standing tradition — a practice some gardeners still swear by."

Susan Peery, managing editor of *The Old Farmer's Almanac*, reminds readers, "Planting by the phases of the moon is *astro-nomical*, referring to the actual visible position of the moon in the sky. It is not *astrological*, using a system based upon the signs of the zodiac." *The Old Farmer's Almanac* prints both Moon Phase charts and Moon Sign charts. Other publications, such as *Llewellyn's Moon Sign Book* (Box 43383-L813, St. Paul, MN 55164-0383) and Ed Hume's *Garden Almanac* (PO Box 1450, Kent, WA 98035) blend the work of astronomers with the predictions of astrologers and the country wisdom of their readers into annual publications that organize a gardener's life day by day.

Both schools agree that moon planting doesn't absolve the gardener from sound planting practices. Seeds and transplants should go into the ground at the appropriate time, taking ground warming and last frost into consideration for tender annuals. So if the ground is particularly cold, or wet and clumpy, even dedicated moon gardeners wait until the conditions improve.

At a time when horticulturists are experimenting, searching for ways to boost their crops without (or with fewer) costly chemical additions, moon planting might appeal to adventurous gardeners as well as to scientists and dreamers. Couldn't planting by the phases of the moon be one reason why gardeners follow the exact same procedures each year, yet don't always get the same results?

by Anne S. Cunningham

## MOON PHASES FOR 1991

First Phase Moon (New Moon to First Quarter) 'Light' — May 14-20, June 12-19, July 11-18, Aug. 9-17, Sept. 8-15, Oct. 7-15.

Second Phase Moon (First Quarter to Full Moon) 'Light' — May 20-28, June 19-26, July 18-26, Aug. 17-25, Sept. 15-23, Oct. 15-23.

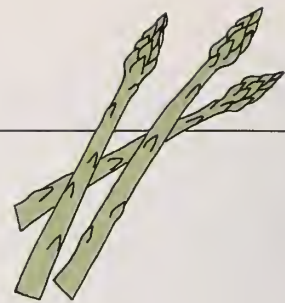
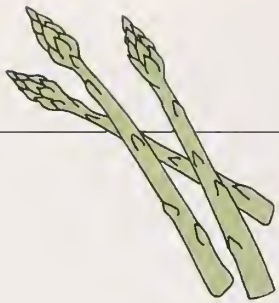
Third Phase Moon (Full Moon to Last Quarter) 'Dark' — May 28-June 5, June 26-July 4, July 26-Aug. 3, Aug. 25-Sept. 1, Sept. 23-30, Oct. 23-30.

Last Phase Moon (Last Quarter to New Moon) 'Dark' — May 6-14, June 5-12, July 4-11, Aug. 3-9, Sept. 1-8, Sept. 30-Oct. 7.

Anne Cunningham is a garden writer and photographer whose articles and photos have appeared in *Green Scene*, the *Philadelphia Inquirer* and *Flower & Garden*.

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# FENCE POST ASPARAGUS

*The 30-year-old asparagus that comes to dinner.*

 by Edwin A. Peeples

photos by Edwin A. Peeples



Growth at full vigor (taken in '89).



Somewhere between Euell Gibbons's stalking of the wild asparagus and the recent hullabaloo about the Jersey Giant super male asparagus, a small tendril of something that looked, presently, like maidenhair fern rose beside a concrete fence post on our lane. I suppose that would have been more than 20 years ago.

I identified the plant readily enough. It was asparagus. Our neighbor, Mrs. Dick, had raised an acre of it. Her farmer kept the acre carefully weeded so that each spring Mrs. Dick, a resolute gourmet, could wallow in asparagus hollandaise, maitaise, mousseline, Chantilly, vinaigrette, au gratin and soup.

Once I had noticed the plant at the fence post, I began to see ferny wisps in our orchard and our fields, all, I suspect, seeded from Mrs. Dick's acre, which was just over the hill. They must have been cultivated escapes. Wild asparagus is bitter, and this wasn't.

What luck! I thought. I'll stake all of the wisps then come back next spring and gather asparagus. But I didn't stake them. More urgent distractions interfered. When spring returned, I couldn't find them. Asparagus is visible when it goes to leaf but invisible at the picking stage if you don't know exactly where to look. The only asparagus I could find was at the fence post.

Its stalks were small, edible but not yet a treat. I decided to visit some care on this venturesome plant and see what it would grow to. I had always mowed near it; now I mowed around it, carefully and often. The mowing kept the weeds down on the outer edges; the post kept them down on the inner edge. More stalks continued to rise after the picking season. The wind tended to blow them down. It seemed to me they would be better up, so I commenced tying them loosely to the fence post with plastic-covered clothesline. As the plant grew, the tied-up mass began to look like wild green hair gathered in a snood.

By the end of five years the plant was yielding a pound of asparagus each season. Not all at once, of course. But I could use it to stretch asparagus I had bought. The delight of these additions helped me develop a craving for asparagus, a craving I shared with a good many ancestors.

Asparagus is another of the many foods that were known to the Egyptians and Romans but not to the modern world until



Spread against the fence (taken in '89).

comparatively recently. Louis XIV, the French Sun King, learned to like asparagus. He encouraged a vigorous cultivation of the three most notable types: white, purple and green. From then on, asparagus became a popular vegetable everywhere. We chiefly like and grow the green in our area, and that was what I had beside our fence post.

*The plant grew into the shape of a green atomic cloud supported by more than 100 stalks.*

#### *from overcooked to tender delicacy*

As my plant prospered, I finally learned to prepare asparagus properly. The asparagus I had had as a child had been overcooked at full length. We were taught to chew off the tips and soft part and discard most of the stalks. Not until I watched it prepared in a restaurant kitchen did I learn that you peeled the stalks from below the tips to the base using a vegetable peeler. Then the entire stalk was edible and tender, ready for the rich, lemon-butter flavor of hollandaise.

Meanwhile, at the fence post my plant was yielding three pounds of asparagus in the short season I allowed myself. I followed what I had been told was the traditional picking season: from late April, when stalks first appeared, until Memorial Day, May 30.

Last year, when I photographed the plant

through the summer, it yielded six pounds of superb asparagus in four weeks. After this, the plant grew into the shape of a green atomic cloud supported by more than 100 stalks.

The literature now tells me that I can harvest safely until June 15. Next year I will do so. But no longer. Several farmers out here who picked their asparagus until the first week of July complained that they were losing their plants, getting smaller and fewer stalks each year. I suggested that they harvest only until June 1 for a couple of years. They did, and their plants came back.

The word is that the productive life of an asparagus plant averages 12 to 15 years. I question this. My fence post asparagus is coming up on 30 years old. It grows larger every year. It may be suffering from under-cutting and be getting overcrowded. But my experiences suggest that the shorter lives may come from overpicking and may not be a terminal condition.

Suddenly, in the late 1980s, Rutgers University introduced the Jersey Giant. These super male asparagus plants were rust-resistant and yielded thicker and more numerous spears. By then my fence post asparagus had grown so productive and impressive that my wife and her garden club began to suppose I might have an accidental Jersey Giant clone.

It was a nice dream. But my fence post plant turned out to be a lady. Looking through the many slides I took of her, I found one showing scores of ruby red seeds, so many she looked like a small Christmas tree. I fear she is a mere daughter of Mary Washington or Martha Washington, the traditional varieties that have been grown in this country since Mount Vernon days.

I don't know how successful you might be in planting an asparagus beside a fence post, but it's a convenient place to have one. It's easy to keep weed-free, easy to pick and seems to be nourished and kept moist by the fence post.

I can't guess how long it will live, but as long as it does, ours will produce far more asparagus each season than we can use.

●

Edwin Peebles is a frequent contributor to *Green Scene* and write a monthly "Perennial Landscape" magazine column for *Country Journal*.









# Learning To Love Celosia

 by Joan Brinton Johnson

It was hardly love at first sight; it was more like an arranged marriage. Four years ago, I was invited to chair the celosia class at the Pennsylvania Horticultural Society Harvest Show. I demurred. My objections were politely arbitrated; I recognized a decision and set about familiarizing myself with celosia.

The genus *Celosia* has two important species, *argentea* (wild) and *cristata* (cultivated). *Celosia cristata* is divided into a number of groups, the largest of which are crested (cockscomb) and feathered (plumosa). The crested group contains the old-fashioned curved cockscomb varieties as well as round varieties. The size of the head bears little relation to the height of the cultivar. Usually the largest combs are found on the shorter cultivars.

The feathered or plumosa group covers most of the other cultivars currently being marketed: pyramidalis, globosas, and plumes. Plumosa also has a number of cultivars with bronze leaves and red stems. These cultivars always have a red flower, but all red flowers do not have bronze leaves and red stems. The plumosas are generally bushier and more bountifully flowered than the crested. Between them though, what a variety of shapes.

Shades of deep crimson to bright flame seem to dominate the color range of celosia, and there are also wonderful golden yellows and many cultivar series that have five or more separate colors available by individual packet. Extra-dwarf crested varieties are usually available only in mixed colors. The crested Chief series contains a bicolor, and some of the crested extra-dwarf have gold edging. Otherwise the flowerheads

have a range of single colors from magenta through orange to cream with many delicate pinks and yellows. What a riot of colors for a late summer and autumn garden.

## height

*Celosia cristata*, can be divided into three natural height classifications: tall (over 20 inches, sometimes reaching 60 inches), medium (12 to 20 inches), and extra dwarf (12 inches and under). Each height has its own uses in garden, patio, window box, sun room or fresh and dried arrangements inside the house.

Tall celosias make good background plantings but require some support. For well-branched plumosa varieties, a light, three-ring tomato cage is excellent. For tall crested cultivars and the 'Sparkler' series, or any other celosias grown primarily for cutting, a three- to four-foot wire or plastic mesh fence is best. Place plants at six- to eight-inch intervals in a single row about four inches from the fence and tie them loosely to the fence as they grow, at 15, 30 and 40 inches. Keep the stalks stripped of side branches. This will encourage strong, straight stems and large well-formed heads. The support for tall celosia is necessary because their large heads become water-soaked in rain storms and can topple the whole plant, pulling the roots right out of the ground.

Medium height celosias rarely need artificial support. If they do, a light caging or bamboo stake should be sufficient. This height is excellent for single specimen or group color accents in the garden. For formal gardens, parterres, and bedding

*continued*

Vibrant, colorful celosias are a real eye stopper in Walt Fisher's garden in Bryn Mawr. Starting at the left: plumed scarlet 'New Look,' yellow 'Golden Triumph,' orange 'Apricot Brandy,' red 'Forest Fire.'



# Celosia

purposes, it is a traditional favorite. Planted in containers, either singly or in groups of three to five, it is decorative for patios, terraces and dooryards. You will find this height especially suitable for fresh or dry arrangements. Some cultivars are good in window boxes.

Extra-dwarf celosia are full of surprises. They are ideal for window boxes and garden edging as well as for indoors on windowsills and tabletops. In parts of the United States, Canada, Holland, Germany, and Japan, they are popular, in four- or six-inch pots, as small wintertime remembrances and Mothers' Day gifts. A mixed color, crested, extra-dwarf cultivar used as an edging for a long border garden, along a fair stretch of green lawn, looks like a jeweled necklace on an emerald gown.

Most flowers have a single characteristic shape. Many have a single basic color. Celosia has a whole wardrobe of shapes and each shape is available in a range of striking colors. I think one could design a celosia garden using all those shapes and colors, sizes and heights, and have a spectator quite unaware that only one species of flower was being used throughout.

## All-America Selections

When I checked the All-America Selections back to its beginning in 1932, I found that 10 celosias had received AAS awards, four in the last 10 years. Only zinnias and marigolds have received more. Seven of the celosia winners, including the first in 1934 and the latest in 1990, were developed by T. Sakata & Co. of Yokohama, Japan.

Sakata Seed Corporation\*, a wholesale seed house, retails through a number of large seed merchants in the United States and has just released a new extra-dwarf pyramidal plumosa, 'Kimono.' 'Kimono' comes in 10 bright, fade-resistant colors.\*\* We're planning to have all 10 colors at the 1991 Harvest Show this fall.

By the time the 1987 Harvest Show took place, I recognized a majority of the cultivars by name. Over the next three years, I learned how to avoid the worst pitfalls of growing celosia.

Here's what I learned:

- Don't buy flats of celosia seedlings showing any color. They will surely turn

photos by John P. Swan



Surprising shapes and colors often appear in subsequent years if you allow crested and plumed celosia varieties to cross-fertilize and let seed winter over. Gambling in the garden can pay off in unpredictable "rogues" that make stunning flower arrangements.

out spindly or dwarfed. Grow your own from seed.

- Don't start your seeds inside before May 15th. Don't start them outside before ground temperatures reach 65°F (June 1st).
- Don't plant your seedlings out in the garden until night temperatures reach 70°F (after June 15th).

- Choose a fairly protected site for your plants, with good drainage. Celosia will tolerate light shade for part of the day but not wet feet.

- Celosia requires 70°-80°F in which to germinate, a consistently warm stretch of days in which to mature, and, when fully grown, will tolerate night temperatures down to 40°F without losing its beauty.

- Water celosia after any five-day dry spell (at the roots, not on the head).

- Fertilize celosia every other week until September with a liquid fertilizer such as Peter's. Of course, if you want to retain the dwarf quality, keep in a too-small pot and don't fertilize.

- Keep Safer's Insecticidal Soap on hand to spray (the leaves, not the heads) if red spider mites begin to make your foliage look as if it had taken a load of buckshot.

- If an early frost threatens, throw an old sheet over your best plants for the night. If a killing frost hits, your celosia will turn black and must be pulled out at once before they sprinkle your garden with little black seeds.

- You can transplant celosia after it is in bloom. Dig your transplant hole with a trowel and fill it with a quart of water. Lift your plant up with the same trowel, carry it carefully to its new hole and slip it in gently. Firm it well so it won't fall over. Give it another quart of water at the roots. It will be fine in the morning. (Don't stress celosia by transplanting in bright sunshine. Transplant on a cloudy or rainy day.)

Celosia is not difficult to grow in the Delaware Valley, a three-garden climate with a sunshine-and-showers spring for blossoms and bulbs, a warm summer in which celosia can mature fully (it abhors maturing in a cool, damp greenhouse), and a long fall of golden September days and bright blue October weather in which celosia can reign magnificently over your autumn garden.

Yes, I have fallen under the spell of this enchanting plant. But I am not the only one to succumb to its charms. Over a century ago, Vilorin-Andrieux et Cie. called the famous celosia cultivar, 'Le Triomphe de l'Exposition' (Paris 1889) "... an absolutely

\*Sakata Seed Corp., P.O. Box Yokohama Minami #20, 1-7 Nagata Higashi 3-Chome, Minami-Ku, Yokohama, Japan 232.

\*\*'Kimono' is available from Stokes Seeds Inc., Box 548, Buffalo, NY 14240.





perfect cultivar . . . surely the variety most worthy of commendation for use in composing a flower garden." Washington Atlee Burpee of Philadelphia was mesmerized by the same cultivar in 1894 and found it " . . . so surpassingly beautiful that it seems impossible so to withdraw one's gaze." And the late James Underwood Crockett of TV Victory Garden fame admitted in his last book that he always planted a row of 'Fiery Feathers' in his garden each year because "They're beautiful in a breeze."

Beware. You too could fall in love with celosia, all flame and fire and incandescence of autumn.



Joan Brinton Johnson has been chairing the celosia classes at the Pennsylvania Horticultural Society Harvest Show since 1987. She has been trained as a Penn State Master gardener and says her hobby is touring gardens here and abroad to see how design and plant selection have been adapted to geographic locations.

Left: 'Century Cream' sports large feathery plumes in abundance. Full branching, it gives a strong color punch in mass plantings.

Top right. A garden stand out, crested Floradale®. Rose-Pink is also a captivating container plant. Good for cutting and dried arrangements.

Bottom right: Tall, delicate-looking 'Pampas Plumes' provide an unusual mauve-pink color back up for sunny borders.



***Ixodes dammini, the deer tick that carries Lyme disease, plagues area gardeners.***

The five counties surrounding Philadelphia reported 278 cases of Lyme disease to the Pennsylvania Department of Health in 1990. The New Jersey Department of Health logged 748 cases from the nine southern counties — about 70% of its total cases. Marion Nygard, Southeast Pennsylvania Communicable Disease representative, reports that many cases are undiagnosed or labelled as another disease. Those of us whose livelihood or hobby draws us outdoors stand a higher risk of meeting up with these ticks.

### ***symptoms***

Lyme disease is caused by a spirochete bacteria transmitted through infected deer tick bites. Primary symptoms develop from two to 30 days after the bite. The symptoms are varied and often confused with other maladies. Most characteristic is a circular red rash around the site of the tick bite, accompanied by aches, fever, or fatigue. Unfortunately, as many as half of Lyme disease sufferers never develop the rash, and the disease progresses. Diagnosed early, Lyme disease is easy to treat. Unchecked, the first symptoms gradually disappear, only to be replaced months or years later by arthritic, neurological, or cardiac complications. Severe pain in the joints, confusion, memory loss, and irregular heartbeat are just some of the problems. Treatment is more difficult as the disease progresses.

### ***life cycle***

The deer tick requires at least two years and three blood meals to mature. In the late winter or early spring, adult females lay as many as 3,000 eggs, and then die. The tiny larvae hatch from June to September and begin their search for a host, usually a small rodent or bird. After feeding, the larvae drop from the host and overwinter in a resting stage. In the early spring of year two, larvae moult into nymphs. In the Delaware Valley area nymphs are active from April to July. The nymphs feed on mice and other small mammals, humans, and birds. After three to four days of feeding, the nymphs fall off and moult into

Photo: Deer ticks are found anywhere their animal or bird hosts carry them. The habitat normally associated with deer ticks consists of woodland edges and high grass that deer frequent. Photo by the author.

# DAMN *IXODES DAMMINI*

 by Nancy Bosold





Some victims of Lyme disease are fortunate enough to develop a circular red rash, called *Erythema chronicum migrans*. The rash often begins as a small red circle around the bite, and then enlarges.

adults. The adults are active in the fall and winter and attach to any warm-blooded host (including deer or humans) that brushes by. Larvae and nymphs wait patiently for a blood meal, and can survive for as long as a year before feeding. The tick can pick up the Lyme disease bacteria while feeding on an infected host. As the tick matures, it continues to feed and may pass Lyme disease on to other animals or humans. The spirochete bacteria responsible for Lyme disease, *Borrelia burgdorferi*, has been found in 31 species of mammals and 49 species of birds. Most humans contract the disease as a result of a nymph or adult tick bite.

### identify the tick

A Pennsylvania State University study identifies seven different types of ticks in our area. So far, *Ixodes dammini* is the only tick proven to transmit Lyme disease.

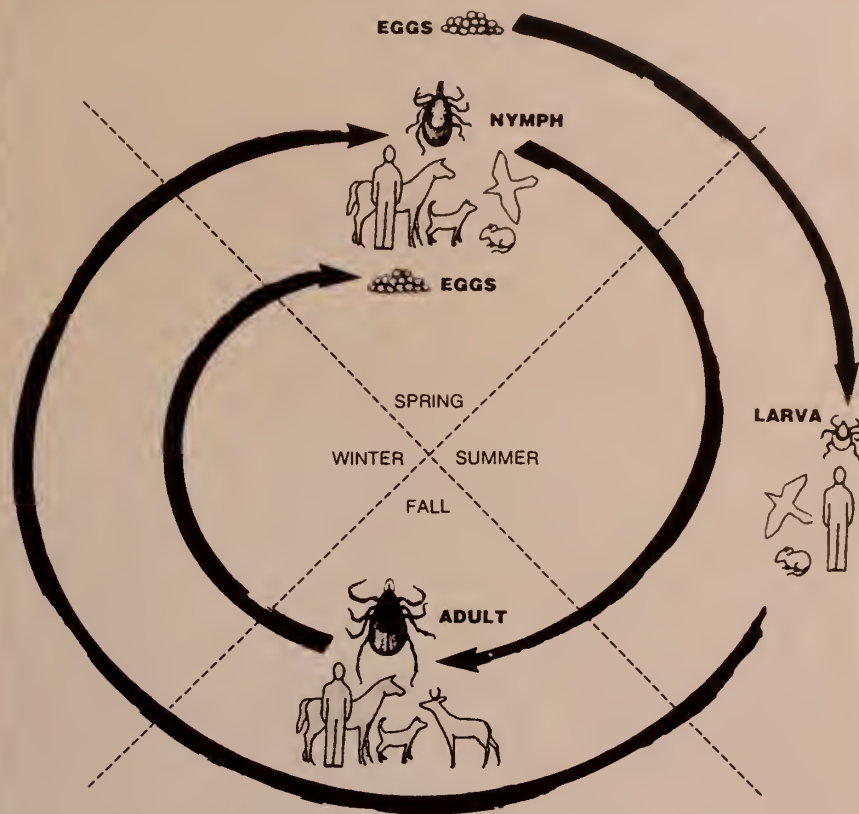
Because there are so many types of ticks, proper identification of the deer tick is often confusing. Size is the easiest way to distinguish a deer tick from the more common American dog tick. The larval or nymphal deer tick is about the size of a poppy seed. They are grey-brown, translucent, and resemble a crawling freckle. After feeding, they appear darker brown and round, about the size of a regular pinhead. The adult tick is about the size of a sesame seed and red-brown before feeding. When engorged, it may be as large as a sunflower seed, and grey-brown in color.

### where the tick lives

The many mammals and birds that serve as host and transportation for the deer tick know no boundaries. Ticks are found anywhere their unsuspecting hosts take them. They are not confined to woodlands, grasslands, and heavy brush, but are often found in suburban foundation plantings, gardens, and lawns.

continued

Life cycle of the deer tick.  
Adapted from Habicht, G.S., et al. 1987.



Adult female



Nymph



Larva

The deer tick, *Ixodes dammini*, enlarged about eight times.



Adult female dog tick, *Dermacentor variabilis*, enlarged about eight times.

Comparison of unengorged and blood-engorged ticks, about life size.



Deer ticks



Dog ticks



## LIVING WITH LYME DISEASE

 by Jeanne C. Sutton

Patricia Del Camp, an elementary school music teacher, lives in Medford Township, Burlington County, New Jersey, with her husband, a school administrator, and their nine-year-old son.

Patricia Del Camp also lives with Lyme disease.

Infected twice, Del Camp is as "typical" as any of the ever-increasing number being reported throughout the Delaware Valley. Despite her positive attitude and outlook, hers is a cautionary tale:

"I don't think I'm unusual at all. I work in a small school district, with three country schools, and we have three other people who have Lyme disease.

"I was bitten in early summer of 1989; about two or three weeks afterward I came down with flu-like symptoms: fever, achiness and general malaise. I went to the doctor thinking it was the flu. He asked me if I had been bitten by a tick. Yes, I had. I had heard about Lyme disease, in fact we were checking my son every day when he came in from playing outside. But it never crossed my mind when I took the tick off myself.

"I tested positive on a Lyme titer and was put on oral antibiotics for three weeks. Throughout the rest of the summer I still had flu-like symptoms, and when my joints began to ache, my doctor put me on antibiotics a second time. The joint pain continued through the fall, especially in the knees and shin-bones. The doctor prescribed intravenous antibiotics, for two weeks in September and again for the entire month of November.

"I administered the IV myself, at home, for an hour every day. A medical service came to the house to change the site of the intravenous and to deliver the supplies. I didn't miss any work, and I went on a hiking trip and a weekend outing to the shore, even though I had to take my pole and all my paraphernalia with me. One

time I even administered it in the car on the turnpike.

"That winter my joints still ached, and I still felt tired. I wasn't missing too much work, but I was coming home and going to sleep every day. I also occasionally had some of the neurological symptoms typical of Lyme disease, such as memory loss, loss of concentration and eye twitches.

"My primary physician sent me to a rheumatologist, who agreed that my treatment was the most they could do to knock out the infection. What I was feeling were residual symptoms that could last indefinitely. He put me on anti-inflammatories to ease the joint pain. Because I was unhappy with the idea that I was going to have to live with it, my doctor sent me to an infectious disease specialist. I would have to live with the symptoms, he concurred, but there was every chance they would eventually go away.

"That's pretty much where I stand now. I take either anti-inflammatories or aspirin for the joint pain, and I still occasionally have bouts of fatigue, but I keep a positive mental attitude. I realize that things could be far worse, and really don't let it bother me, unless I'm tired. That always makes me more susceptible to feeling down. I just have to remind myself that the fatigue is part of it.

"I take precautions against ticks, and use a tick spray when I go out into the woods, but I'm not paranoid about it, and I am not overprotective of my son, either. He's young and should be able to play outside. The important thing is that we check for ticks, every time we come in from the outdoors."

Jeanne C. Sutton is a writer who gardens in Medford Township, Burlington County, New Jersey, where Patricia Del Camp also lives. Sutton spent last July struggling with several unpleasant side-effects of the massive antibiotic dosages required to treat her own case of Lyme disease.

Ticks are active year round, so be aware that cold weather doesn't eliminate the risk of running into one of these persistent creatures. According to Amy Jones, co-founder of the Lyme Project in Bryn Athyn, Pennsylvania, about the only time deer ticks aren't active is when below freezing temperatures are accompanied by snow cover. During the warm spell in January 1991, Jones received a number of calls

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*Ticks are active year round, so be aware that cold weather doesn't eliminate the risk of running into one of these persistent creatures.*

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from people reporting ticks. Look for adult ticks in the winter. Adults may be active on sunny days even when the temperature is below freezing.

Jones also points out that deer ticks seem to prefer areas where green cover is available year round. Honeysuckle, conifers, and pachysandra are examples of the vegetation especially conducive to ticks.

You can scout for ticks around your garden. Called flagging, the process involves attaching a one square-yard piece of white fabric (flannel works well) to a dowel. Drag the cloth through the vegetation and examine the cloth for hitchhiking ticks. There are several effective pesticides registered to treat lawn and garden areas that are infested with ticks. They include carbaryl, chlorpyrifos, diazinon, and permethrin; of course, these must be used carefully, according to labelled directions.

### *protect yourself from bites*

Protect yourself when you are outdoors in tick habitat. Wear light-colored clothing so ticks can easily be spotted. Wear long pants, long sleeves, closed shoes, and tuck pants legs into socks. Use a repellent to discourage ticks from staying on you. DEET is an ingredient commonly found in insect repellents that can be used on the skin or clothing. DEET will not kill the ticks, it only repels them, so they may crawl to another unprotected part of your body. The repellent may be especially handy in hot weather when all that clothing is impractical. Another alternative is to use Permanone, an acaricide containing permethrin, which effectively kills ticks. It is





Deer ticks may also be found in a suburban backyard. If you are in a neighborhood where deer ticks are found, be sure to wear protective clothing when gardening.

applied to your clothes only, not skin. Permanone persists on clothing, effective even after two or three machine washings. So, I would urge caution; I would use only in an area where ticks have been found. (Available at selected garden centers, e.g. Agway.)

Do not rely on clothing or chemicals for protection, however. Regardless of the precautions taken, do a thorough visual check routinely. Shower after outings. Inspect your children, yourself, and your pets. Don't overlook pets since they can transport ticks into your house and yard. Tick collars may not be effective, so look for products containing DEET or permethrin, specifically labeled for pets.

#### how to remove the tick

If you find a tick feeding, don't panic. Remember, not all deer ticks carry the spirochete. Experts say that the tick must feed as long as 12 to 24 hours before it can transmit the Lyme disease bacteria. Use care when removing it. The technique is a little different than what you may be accustomed to. The object is to remove the tick slowly and gently to prevent the tick from regurgitating its stomach contents (which may contain the bacteria) into the bloodstream. Use tweezers and grasp the tick directly behind the head. Pull slowly and steadily so the tick has time to disengage its mouthparts. A slight twisting motion may help. Do not try to loosen the tick with a hot match, cover it with petroleum jelly, or rub with alcohol. Once the tick

has been removed, cleanse the area with alcohol. If the mouthparts remain embedded, remove as you would a splinter, and thoroughly cleanse with alcohol.

Save the tick after removing it. You may have the tick analyzed for the presence of the disease-causing bacteria, *Borrelia burgdorferi*, to aid diagnosis. Monitor the bite area and report any rash or illness following the bite to your physician.

#### HOW TO PROTECT YOURSELF

- Get to know the deer tick and its habitat.
- Check your yard for ticks by "flagging."
- Wear light-colored clothing. Cover exposed skin. Use a repellent.
- Thoroughly examine family members and pets after being outside.
- If bitten, remove the tick correctly and save it.
- If symptoms occur following the bite, contact your physician.

#### where to go for help

You don't need to be an expert about Lyme disease to protect yourself. Just be aware of the tick and its habitat, recognize Lyme symptoms, and establish a routine for tick examinations.

If you need more information, contact

the following:

The Lyme Project

Box 618

Bryn Athyn, PA 19009

The Lyme Project is a public benefit non-profit organization providing information to physicians and the public regarding all aspects of the disease, treatment, tick identification, tick analysis for the Lyme spirochete, and educational materials. They are funded solely by public donations.

The Pennsylvania State University  
Cooperative Extension

Contact your county office for information about Lyme disease, tick identification, and educational materials.

The Rutgers Cooperative Extension

Contact your county office for information about Lyme disease, tick identification, and educational materials.

The PA Department of Health (378-4377)  
625 Cherry Street, 4th Floor  
Reading, PA

Marion Nygard (378-4352)

Communicable Disease Representative  
The Department of Health can provide educational and statistical information.

Nancy Bosold is a horticultural extension agent for the Pennsylvania State University in Montgomery County, Pennsylvania. She works with gardeners and is alarmed by the number of people who have been affected by Lyme disease, either directly, or indirectly when supporting a friend or family member affected by it. She keeps hearing, "If only I had known."



# Fairy Lilies

 by Jane Grushow

photo by Jane Grushow from Grant Heilman



A Zephyr lily (*Zephyranthes grandiflora*)



My friend lives on a farm in Lancaster County and has a lovely old-fashioned sort of garden. Surrounded by chicken wire to keep out the chickens, it is large enough to provide sufficient vegetables to satisfy hearty farm appetites. Above rows of vegetables, strawberries, and asparagus, summer perennials billow down a shallow bank. Larkspur, sweet william, and love-in-the-mist are allowed to self-seed throughout the garden, decorating the



otherwise formal rows. She grows the stateliest delphiniums I have ever seen.

One fine day in late May, while I was enjoying this marvelous profusion, my friend handed me a clump of dried-up potting soil encasing about half a dozen bulbs. She told me that all I had to do was to water the bulbs after potting up and they would grow and bloom, continuing to bloom all summer. Over the years I have become a skeptical gardener and have learned from experience that if something sounds too good to be true, it usually is. Her description sounded far too good to be true. My friend's garden, however, provided ample evidence of her skill, and I would not lose anything by accepting her gift and following her directions. "They are fairy lilies," she said. I think she suspected that I harbored doubts about the fairy lilies. "All you have to do is water them," she repeated. I did as I was told, sat back, and waited.

Fairy lilies belong to the genus *Zephyranthes*. There are at least four species available for cultivation. The bulbs I was given were *Zephyranthes grandiflora*. This and the other species seem to go under shared common names, such as rain lily because blooming is triggered by spring rains and zephyr lily from the rather fanciful notion that these plants arrived in the Old World, more precisely to Europe and Linnaeus, on the west wind. (Greek: Zephyros) *Zephyranthes* is a New World genus and is quite abundant in parts of South America. The Rio Plata (River of Silver) is so named because sheets of a white species, *Zephyranthes candida*, were in bloom along its banks when first explored by Europeans. The atamasco lily, *Z. atamasco*, is a native of the southern United States. It and other cultivated species are hardy south of Washington, D.C. (Zone 7, USDA Hardiness Map). In these warmer climes, they are charming when grown as naturalized plantings in grassy areas, in full sun, and are fine as edging in beds and borders. *Z. candida* appears to be somewhat hardier than other species and is listed as surviving in Zone 6. It has the added advantage of doing well in damp areas where other bulbs would rot. The bulbs, which are a little larger than onion sets, should be planted in the spring three to four inches deep, about three inches apart.

After I had potted up my bulbs and subjected them to spring rains, thin, strap-shaped leaves appeared almost immediately. In three weeks dark pink flower buds appeared; a week later, the bulbs were in full bloom. The blossoms of fairy lilies are delicate, shell-pink trumpets about three

inches in length, the first flush of four blossoms was lovely while it lasted, but that's it, I thought. To my delight, more blossoms appeared intermittently throughout the summer. It was a mystery where all those blooms came from for there couldn't have been more than six bulbs in the original clump. As winter approached, my friend told me to stop watering my pot of fairy lilies. "Before the first freeze just put the pot down in your cellar," she said. "Don't they have to be repotted?" I asked politely. Actually I thought that after blooming all summer, the bulbs would not be worth saving; after all, paperwhites were only good for one year. Why should fairy lilies be any different?

Next spring I started watering my fairy lilies again, and once again they went through the cycle. But this time they performed even better. Instead of becoming exhausted, the bulbs had actually multiplied, and I was rewarded with a flush of more than 10 blossoms. At the end of the third year I had to divide the original clump. Now I have two handsome pots of fairy lilies on either side of the stone steps that lead up to the house.

Occasionally, I have clumps of bulbs to give away to friends. I enjoy the incredulous look on their faces when I tell them, "All you have to do is pot them up and water."

#### SOURCES

J.W. Jung  
335 S. High Street  
Randolph, WI 53957  
(414) 326-3121

Park's Seed Company  
Cokesbury Road  
Greenwood, SC 29648  
(803) 223-7333

Spring Hill Nurseries  
110 W. Elm Street  
Tipp City, OH 45371  
(309) 691-4616

Van Bourgondien  
245 Farmingdale Road  
P.O. Box A  
Babylon, NY 11702

Jane Grushow is a horticultural writer-photographer who gardens in Lancaster County, Pennsylvania. She wrote "The Moravian Peony" in the September-October 1990 issue of *Green Scene*.



## TWO POPPIES

by Elizabeth Derbyshire

The poppy is represented in the woodland garden's floral carpet by two outstanding members, spectacular both in foliage and in flower: bloodroot (*Sanguinaria canadensis*) and the celandine or woodland poppy (*Stylophorum diphylllum*).

### bloodroot

To many of us the bloodroot is a familiar "Welcome to Spring." First to emerge in April is the single grey-green deeply lobed leaf. The crystal white flower with five to ten petals brings brightness to the woodland. The cluster of stamens and pistil are a bright yellow and are conspicuous in the center of the flower.

The seed pod develops about three weeks after the bloom. When ripe, press the seeds into the soil in the immediate area. Bloodroot germinates best when using fresh seed.

Bloodroot is a plant of easy culture if grown in a well-drained loamy soil and is a natural ground cover when it produces clumps 8 to 10 inches in height.

The double bloodroot (*Sanguinaria canadensis* 'Multiplex') is spectacular and commands a special place in our garden. We find the double form benefits from dividing the rhizomes every few years.

The U.S. Department of Agriculture indicates that the bloodroot is extremely poisonous. It is, however, a source of morphine used as a sedative and to treat bronchitis.

In Appalachia a piece of bloodroot is sometimes carried as a charm to ward off evil spirits.

### celandine poppy

Another member of the poppy family in our springtime garden, the celandine poppy (*Stylophorum diphylllum*), should be a more familiar plant to our gardeners.

The densely cut foliage emerges before the bright yellow poppy flower. The flower is sometimes about 2 inches across and appears above the soft green foliage. The plant reaches a height of 10 inches and can become an integral part of the middle of a shady border. It, too, likes a "humusy" and well-drained soil.

When mature, the furry seed pod of the celandine poppy should be collected and planted in a similar "humusy" soil. Tom Stevenson, the propagator at Bowman's Hill Wildflower Preserve, suggests gathering and storing the poppy seed in the



Woodland poppy (*Stylophorum diphylllum*)



Bloodroot (*Sanguinaria canadensis*)

refrigerator in a jar with sand and sphagnum. In December, they planted the seeds in pots or flats, and good plants are ready for their Annual Plant Sale, which will be held Friday and Saturday, May 10 and 11, 1991. There are several well-established clumps of the woodland poppy at Bowman's Hill.

From the American Rock Garden Society seed exchange I have another fine plant from the poppy family tree (*Stylophorum lasiocarpa*). This plant extends the bloom of the poppy family into the summer.

Early herbalists found the celandine important in treating eye disorders. The acrid juice is bitter and the leaves are not at all palatable.

Common names can be confusing and the celandine poppy is a good case in point. The celandine (*Chelidonium majus*) is a weedy plant with a small yellow flower and a seed pod quite different from the celandine poppy. The other introduced species

covering large damp areas in the spring is the lesser celandine, a member of the buttercup family. It has a bright yellow flower and heart-shaped leaves close to the ground. This plant completely disappears by mid-June.

Elizabeth B. Derbyshire is a naturalist and horticulturist who lives in Gwynedd, Pennsylvania.

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# SEEMANIA LATIFOLIA

by Toni Brinton

*A plant for winter's  
dark days.*

Where does it originate? Why aren't more people growing it? Not listed in *Hortus III*, *Seemania latifolia* is an enigma. I received mine at the 1983 PHS Plant Giveaway. It had been donated by Liddon Pennock of Meadowbrook Farm. In seven years the plant has grown to enormous size (18 inches tall and at least 24 inches across). It begins blooming before Thanksgiving and continues through January, and often into February.

The flowers appear at the end of the red-tinged leafy stalks with new groups continually emerging. The tubular flowers are an orange red, with a narrow dark burgundy red, five-starred rim at the tube's opening. The calyx is green, narrow, and five-starred also. The large parent is in a hanging basket and from it each year many new shoots with roots emerge. I then pot them in 3- to 4-inch clay pots. By summer's end these are good flowering-size plants that one can share. They make an appropriate Christmas gift for gardening friends. *Seemania* seems embarrassingly easy to grow, and blooms longer than



photo by Toni Brinton

any plant that I know (some orchids do bloom over long periods but they are not as simple to propagate).

*Seemania*'s only drawback is that it stops flowering just before the Philadelphia Flower Show and is not ready to bloom again when it's Harvest Show time. Although not a good candidate for exhibition at these two shows, it adds cheer to winter's doldrums and looks quite respectable the nine months it's not in flower.

If any *Green Scene* reader can add any information or comment about this plant, please do share what you know. It is the best plant I ever received from the PHS Plant Giveaway, rewarding me with lots of blooms in return for very little care.

Toni Brinton is an enthusiastic dirt gardener in Chadds Ford. She's a former member of the PHS

Council and former chair of the PHS Library Committee. Brinton is a member of the board of directors of Bartram's Garden.

[Editor's Note: If you have a special plant you'd like to propagate and share with members at the Pennsylvania Horticultural Society's Annual Plant Dividend, please contact Betsy Gullan at 625-8257.]

## LETTER TO THE EDITOR

### What To Do in Winter

I am disheartened by Helen Campbell's article "The Winter of Our Discontent," in the Jan./Feb. issue of *Green Scene*. Her article makes the point that, "there is nothing whatsoever to do in the depths of winter."

Being a professional gardener, I find that many plants tell you as much about themselves in the cold of winter as they do in the heat of summer. Maybe not as much in winter, but enough to display many of their secrets that fascinate and impress us.

A great deal of my summer gardening is first done in winter's harsh breath. One has to brave the cold in order to see the garden in winter, and there are many wonders to be found. If one lets their attitude go dormant along with their gardens in winter, then perhaps they *should* sit glancing out the window, sipping their port, and thumbing through catalogs waiting for the first robins to appear.

Patrick Valentine  
Valentine's Horticultural Service  
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Does a Mercedes-Benz  
need gilding? No, but  
these colorful lilies among  
the Mercedes and Peugots  
don't hurt either. The sun-  
washed hybrid lily,  
Thunderbolt.

See page 14

Photo by John C. Gouker





# GREEN SCENE

THE MAGAZINE OF THE PENNSYLVANIA HORTICULTURAL SOCIETY • JULY/AUGUST 1991 • \$2.00



*An issue about  
Environment-friendly Gardening*

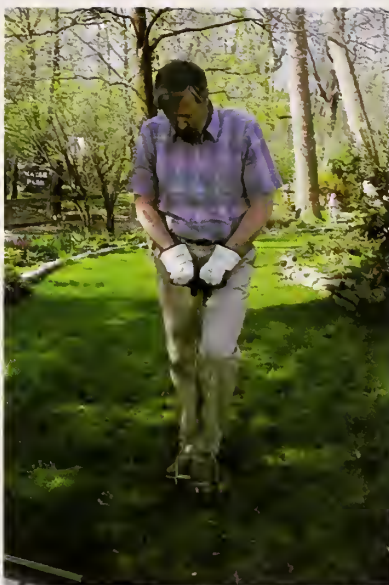
*"I am only one, but still I am one;  
I cannot do everything, but still  
I can do something."*

Edmund Burke





in this issue



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Front Cover: photo by John P. Swan

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Volume 19, Number 6 July/August 1991

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# WHAT ON EARTH IS A NICE GARDENER LIKE YOU DOING TO THE ENVIRONMENT?

 by John P. Swan

*No one of us is going to save the world alone, but every gardener and garden, big and small, counts. With over 38 million private gardens in this country consuming 65 million pounds of pesticides, dumping four to eight times the amount per acre as farmers, caring for the environment will only come about when responsible gardeners themselves want to make changes. Edmund Burke put it this way, "I am only one, but still I am one; I cannot do everything, but still I can do something."*

Not too long ago, our lives seemed relatively simple, certainly from an environmental perspective. The decades of the '50s into the '80s were a period of unprecedented growth. Progress was everywhere; in medicine, technology, food packaging, agriculture. And it was good. Everything offered the promise of bigger and better things for better living, an easier, carefree life. Everyone was benefitting. That's what we believed.

Today, we're confronted with the sobering reality that progress has a price tag. The great societal benefits were not a free lunch after all. Nature has presented us with a bill for consumption. And the tally includes air, ocean and fresh water pollution, acid rain, soil erosion and depletion, ozone reduction, climate changes, the trashing of Nature's genetic blueprints through species extinction, destruction of plant and wildlife habitats.

How can we rectify all of that? And how did the bill get so big so fast? Gardeners know better than anyone that the problems, which have been haunting us for decades,

*continued*

the green scene / july 1991



illustration by Julie Baxendell



---

*Don't look upon every chewed leaf as a personal failure.*

---

photo by John P. Swan



4

One alternative to the energy consuming, two-dimensional lawn landscape is three-dimensional graceful grasses such as *Miscanthus sinensis* 'Gracillimus' in background and *Pennisetum alopecuroides*.

are the result of the way we live and of society's attitudes. As gardeners it's easy for us to visualize Nature as a vast recycling plant where one organism's waste, and the organism itself, are the building blocks for another; a balanced global support system where everything's connected. Sort of like your compost pile, but a lot prettier.

British scientist James Lovelock's startling Gaia\* hypothesis sees the Earth as one giant living organism. "For 3.5 billion years" it goes, "microbes, plants and animals have coevolved with their environment as one globally integrated super

organism." Yet, the Earth, with its enormous capacity to buffer, smooth out natural abuses with its self-cleaning system is showing clear signs that its ability to cope with man-made abuse is wearing thin.

#### *are we owners, or caretakers?*

The industrial revolution changed the way we use the Earth. Ever since then, people have increasingly looked at Nature as something to be conquered, an inexhaustible gold mine to satisfy increasingly wasteful lifestyles, while at the same time treating it as a bottomless pit into which we throw away our toxic wastes. We're learning that there is no such thing as "away." The Earth is a closed system. People do not enjoy a privileged ownership position. In the short run, it would appear, if society is not willing to change its values and to find ways to work with, not against Nature, the

technological lifestyle we all enjoy threatens to overwhelm the very life-support system it depends on. But, the Earth will go on. It's we who need the Earth.

Nobody understands that better than gardeners. We are bonded in sharing a special relationship with the soil, a love of plants, a deep understanding of the boundless beauty of Nature and a respect for all living things. Gardeners, garden clubs, plant societies, horticulturists, professional and amateur, are surely among the most fundamental of environmentalists. To us, every day is Earth Day. All of us are becoming even more aware of the necessity to nurture our gardens without inflicting damage to the environment around us.

#### *what can one person do to become an environmentally friendly gardener?*

Be prepared to change your attitude.

\* Gaia: Earth goddess of the Greeks. James Lovelock, Fellow of the Royal Society, wrote *Gaia: A New Look at Life on Earth*, Oxford University Press, Oxford, England, 1979. (Most recent edition, 1989), and *The Ages of Gaia: A Biography of Our Living Earth*, Norton, New York, 1988.





You'll need to start by examining your gardening practices in a wholly different light. The impossible dream that is the driving force behind wasting water, excess chemical pesticide use, and over-fertilization is the desire for the picture-perfect, weed-free, evergreen lawn; the flawless flower. As conventionally beautiful as they may be, it is a prime example of gardeners battling Nature. A case of losing the war and the peace.

Reduce your quick-fix chemical dependency. There are plenty of non-toxic alternatives available. And learn to live with some insect damage. Don't look upon every chewed leaf as a personal failure.

***"When the well is dry, we know the worth of water"***

*Poor Richard Almanac, 1738*

Pure water, that precious resource from

below and above ground, is so easy to squander. Summer lawn sprinkling triples water consumption, is seldom enough anyway. Just stop it. The green in the grasses of mature lawns returns naturally after dry periods anyway. That's Nature's way.

### ***mulch, mulch, mulch***

It looks good, reduces weeding, moderates soil temperatures, and it goes a long way toward eliminating the need for wasteful watering. Last year's mulch can be this year's organic matter, enriching the soil, contributing to healthier disease-resistant plants.

### ***soil, the sustainer of life***

Enrich it regularly and liberally with organic matter from your compost pile. Aged mushroom "soil" and manure, if accessible, also improve biological diversity and make tasty nutrients available to your plants. So, what's new, you ask? Just do it.

### ***gardening partner peer pressure? reduce lawn area anyway.***

Lawns? Talk about a serious subject, rock bound attitudes, the last bastion of social status in the neighborhood. Lawns; 30 million acres of soil covered by a thin two-dimensional layer of unnatural monoculture vegetation. Lawns bombarded by chemicals, brutally trimmed, over-fertilized to a point of near exhaustion. Lawns, the most expensive, labor-intensive, energy-consuming part of the home landscape.

Dare to be different. Instead of all lawn, consider easy-care ground covers, island beds of perennials and shrubs. Turn lawn expanse into smaller grassy areas, use grass to create pathways, convert an area to a perennial meadow garden. Plant a tree. Do this and you'll be a true friend of the environment. That should patch things up with your gardening partner.

### ***give the natives back their land, and other plants***

There are more native plant species growing in the eastern piedmont and coastal plain than are found in all of Europe put together. John Bartram, who discovered many of them in colonial days, knew their value, as did his English plant lovers. Two hundred years later, hundreds of our natives are becoming appreciated for their own innate, stunning

landscape beauty. Just in time. As a group they are less susceptible to insects and diseases. For thousands of years they have genetically adapted to the climatic curve balls that Nature hurled their way. Explore these wonderful trouble-free garden survivors and bring new beauty to your garden.

Other thoughts: plant more perennials and biennials, less annuals. They are deeper rooted, need less watering. Introduce the graceful, drought-tolerant grasses to your garden. Have you ever seen a *Miscanthus* wilt? Concentrate your new ornamental plant and vegetable purchases on disease-resistant varieties suited to your area. Create habitats in your garden: select plants that attract butterflies, insect-eating birds. Add bird houses and, yes, bat houses to reduce mosquitos and other troublesome pests. Help a toad across the road, and into your garden.

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***Gardeners, garden clubs, plant societies, horticulturists professional and amateur, are surely among the most fundamental of environmentalists. To us, every day is Earth Day.***

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### ***the miracle of this magnificent, mysterious place called Earth***

It's where we live. And now we have the capability to destroy life on Earth. Do we have the wisdom to nurture it? Will we lose touch with Nature? Or will we come to understand that as a part of Nature's network we are connected to everything else?


Since plants can't speak for themselves, they need all the help they can get from people. When each of us faces a single flower, recognizes the miracle of its creation, its delicate beauty, its fragility in a potentially unfriendly environment, how much imagination does it take to sense that it's looking up at you, too, and asking, "Are you doing the best you can to save the two of us?"

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Photographer-writer John Swan is a frequent contributor to *Green Scene*. Swan is a member of the Pennsylvania Horticultural Society's Flower Show Executive Committee and a board member of Historic Bartram's Garden.



# YES, YOU CAN HAVE A PERFECT LAWN

 by Liz and Jeff Ball

A quick drive around any suburban neighborhood in July suggests that very few homeowners have discovered the secret of the perfect lawn. Up until a year or two ago we were among those who despaired of ever having even a "decent" lawn, let alone a nearly perfect one. And judging from the experiences of some of our more affluent, lawn-focused friends, evidence does not show that more time and effort will yield better results. The secret is certainly not dosing the grass with quick-fix chemicals; our neighbors who do this have poor lawns as well. In fact our unofficial windshield survey suggests that those lawns constantly fertilized, herbicided and pesticided are often in worse shape than ours.

When we learned that the foundation — both literally and figuratively — of a healthy lawn is the quality of the soil the grass plants grow in, we had the key to developing a healthy, low-maintenance lawn. In just one season we saw dramatic evidence right outside our front door that it is possible to have a thick, green, virtually weed-free lawn without constantly having to treat the grass itself.

Like all plants, grass plants depend on the soil to provide moisture, oxygen and nutrients to sustain them. We routinely take pains to assure that our garden soil provides this for our flowers and vegetables, but we sometimes forget that we must take the same pains to see that our lawn soil does the same for our grass. Achieving a perfect, or almost perfect, lawn starts with a soil improvement program. Follow this up with turf renovation and use correct maintenance practices and your lawn will be the envy of the neighborhood. Take the following steps to restore soil health to all the turf areas in your home landscape.

## 1. Aerate the Soil to Reduce Compaction

Most lawns in the Delaware Valley struggle in compacted soil. If you live in a home built over the past decade and a half when heavy equipment used in construction of large development tracts has become common, the soil at the site is undoubtedly terribly compacted. It is also highly likely that the topsoil was removed from the site before construction and not returned. How can grass possibly thrive in compacted subsoil? If you live in an older

home where the lawn has been in place for 15 to 20 years or more, someone has walked behind a lawn mower 20 to 30 times each year slowly, but progressively, compacting that soil. If, during that time, grass clippings have been collected and no organic material has been added to the soil, it has little ability to support grass plants.

**Core aeration:** The best way to eliminate compaction is to introduce air into the soil

*That quarter acre of healthy grass produces as much oxygen and CO<sub>2</sub> as a number of full-sized shade trees.*

by means of a core aerating machine. Hand or power aerating equipment punches into the soil at 4- to 6-inch intervals and pulls up 3- to 4-inch plugs of soil, which it deposits on the lawn. The holes that remain provide a way for oxygen to get down near the root systems of the grass where it can stimulate microbial activity in the soil. The holes also provide space for some supplemental organic material that you should spread as the next step. Aerate a poor soil twice a year for a year or two to kick off its recovery, and then aerate it every two years thereafter as a maintenance measure. A perfect lawn is usually a well-aerated lawn.

**Spiking:** Various spiking devices, such as those used frequently by golf course managers, aerate soil by simply punching 3- to 4-inch deep holes into it. Because they do not pull out a soil plug, they are not quite as effective as the core aerating process is. The spikes on golf shoes are too short for this job, but there are spiking shoes designed specifically for this purpose as well as a hand spiking tool available from some mail order sources.

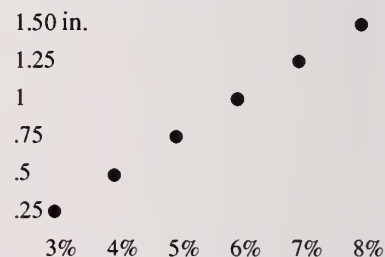
## 2. Add Organic Material to Aid Soil Drainage and Water Retention

In addition to air, poor soil needs regular infusions of humus — nutritious, water-absorbing organic material. Over the years naturally occurring humus in the soil has been broken down into nutrients used by grass plants. To sustain the soil that sustains the grass, replace humus on a regular basis. Organic material improves the soil's ability to hold moisture, and it creates air spaces as it decomposes, simultaneously producing

nutrients and reducing fertilizing needs. A perfect lawn will likely be growing in soil with an organic content of 3.5 to 5%. Most lawns in the Delaware Valley are growing in soils with an organic content of 2% or lower.

### Add organic material to raise humus in soil

Layer of organic material/inches added to first 12 inches of soil



Resulting Percent Humus in Soil Assuming Starting at 2% organic material before compost is applied

### Improve Lawn Quality

The graph shown here shows that roughly ¼ inch of peat moss or any other organic material spread over your lawn as a top-dressing each season will raise the percentage of humus in the lawn soil by approximately one point. So to raise the humus content of a lawn with 2% organic matter to 4%, add a ½-inch layer of peat moss, backyard compost or composted municipal sludge to it. Even a quarter of an inch will make a noticeable impact on the quality of your lawn.

We are fortunate in the Delaware Valley to have access to Philadelphia's composted sludge. Produced by the Philadelphia Water Department, it is absolutely safe for landscape use, it is inexpensive (free if you pick it up yourself), and it is the best soil conditioner we have ever tried. A half inch of sludge over an aerated lawn alone will go a long way toward restoring soil health and your grass will reflect the improvement.

Spread the peat moss (one bale equals 6.4 bushels) or composted sludge (1 cubic foot equals .8 bushels) or compost by hand by raking shovelful deposited on the lawn over the whole area or use a spreader such as the Top Dresser. This new tool spreads a nice even layer of humus over the lawn with less effort on your part.

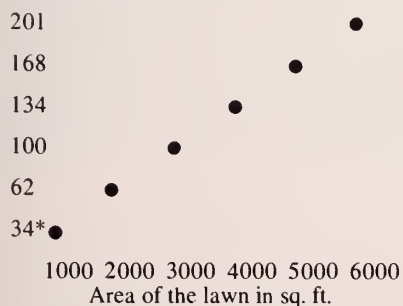




Top left: Aerate the lawn inexpensively with a core aerator. This one punches holes in compacted soil allowing air to reach grass roots. The plugs of soil that are removed are deposited on the top of the grass to disintegrate in the rain.  
 Top right: Composted municipal sludge makes a wonderful soil conditioner, providing nutrition and humus to exhausted lawn soil.  
 Bottom: The more traditional reel (center) and rotary lawnmowers (right) leave coarse, clumped clippings on the lawn. The mulching mower (left) chops them finely.

**How much organic material you need to cover ½-inch depth on your lawn?**

# of Bushels



\*(34 bushels equals 5 bales of peat moss).

A layer of ¼ to ½ inch of organic material laid on top of a previously aerated lawn will end up down in the soil in less than a month. Rain and the action of migrating worms and other creatures in the soil rapidly move the material below the soil's surface.

**3. Leave Grass Clippings to Feed the Grass**

The best, cheapest and easiest way to add nitrogen to a lawn is always to leave the grass clippings on it when you mow. While a thick accumulation of grass clippings around grass roots, called thatch, signals a soil compaction problem, this does not occur if the lawn soil is well

aerated and healthy. On healthy soil grass clippings decompose into humus in a week to two weeks and condition the soil while adding nitrogen to it. Routinely left on the lawn after every mowing all season, they will contribute humus equivalent of a ¼ inch of peat moss for that year. Leaving those clippings represents the amount of nitrogen found in a 50-pound bag of lawn fertilizer on every 1,000 square feet of lawn.

**Use Mulching Mower:** If you are worried about the clippings clumping up on top of the grass and looking unsightly, shift to what is called a "mulching mower." Mulching mowers are designed to cut the grass blades several times before releasing

*continued*



them back onto the turf. The smaller pieces fall more easily out of sight down to the soil, avoiding those unsightly clumps.

**Mowing Tips:** As a drive around the Delaware Valley confirms, homeowners typically mow their grass much too short. That is another reason why perfect lawns are few and far between. Perfect lawns are always at least 2 inches high. No matter what kind of grass you are growing, the grass should seldom be cut shorter than 2 inches, and in the heat of July and August it should be 2½ to 3 inches tall. Taller grass shades out competing weeds, has deeper root systems so it needs less water, and always looks greener. In mid-summer heat, it is the tall grass lawn that sets the standard for beauty and health.

#### 4. Add Microorganisms To Improve Soil Nutrition

The microbial life in the soil is critical to the health of the grass plants growing in that soil. The complex interaction of microscopic soil life converts the nutrients in soil into a form that plants can take advantage of. Tired, compacted soil cannot support healthy microbial activity and the lawn suffers. As you spread homemade compost or Philadelphia's composted sludge on the lawn, it benefits from the addition of billions of microbes that attach to compost particles.

Consider boosting the population of bacteria, fungi, and other microscopic critters in the soil even higher by buying some at the local garden center. Add them to the lawn soil at the same time you fertilize the soil by using Ringer's Lawn Restore, a slow-release lawn fertilizer with microorganisms added. Or buy any of the compost activator or "bioactivator" products on the shelf designed for compost bins. They are nothing more than microbes in a box, which you can spread thinly over the lawn and water in. If perfection is your goal, then sparking up the microbial party below the soil's surface will make a noticeable difference in your grass's quality.

#### 5. Maintain Proper Soil pH To Promote Grass Health

Much of the Delaware Valley tends to have fairly acidic soils, so you may need to add powdered lime to your lawn each year to achieve the ideal pH level of 6.5 to 7.2 preferred by northern lawn grasses. Lime

takes six months to have an effect, so spread it in the fall rather than in the spring. Avoid lime with magnesium added. Repeated applications of lime with magnesium risks a buildup of excessive magnesium in the soil, which will harm the grass plants.

#### now the soil IS terrific!

We said that fixing the soil was the first of three steps toward developing the perfect lawn. It is, undoubtedly, the most important. Even if you do nothing else, your lawn will show distinct improvement. If you follow up with a renovation of the lawn by introducing some of the modern grass varieties you will notice even more improvement. While Kentucky bluegrass is a favorite in the Delaware Valley, it demands a lot of water, requires more frequent mowings, and is vulnerable to insects and disease. Consider overseeding with modern varieties of bluegrass or even better, replacing it with tall turf-type fescue that offers greater disease resistance and drought tolerance. If you top off all this effort with proper mowing techniques, annual fertilization with granular slow-release nitrogen fertilizer and restrict weed control measures to spot treatment when they appear, a perfect lawn without depending on chemicals is within your grasp.

#### impact on the environment

Having a perfect lawn not only keeps the neighbors envious, it improves the general environment of the Delaware Valley. By leaving the grass clippings on the typical ¼-acre lawn, more than 200 bags of grass clippings will not go to the landfill. A lawn with the proper grass, proper management techniques, and terrific soil requires much less precious water, needs much less potentially polluting chemical fertilizers, and needs very few chemical pesticides. Trees are not the only good guys addressing the greenhouse effect. That quarter acre of healthy grass produces as much oxygen and CO<sub>2</sub> as a number of full-sized shade trees. The perfect lawn is nice for everyone.

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*Rodale's Landscape Problem Solver* by Jeff & Liz Ball. Rodale Press, Emmaus, PA. 1989.

#### RESOURCES

**Hand aerating tool:** \$20, Ringer, 9959 Valley View Road, Eden Prairie, MN 55344, 800-654-1047.

**Power lawn aerating tool:** Gorilla, \$900, Ringer (see above). Rental place for aerating machines: Taylor Rental with sites throughout the Delaware Valley.

**Spiking tool:** \$25, Langenbach, P.O. Box 453, Blairstown, NJ 07825, 800-362-1991.

**Mulching mowers:** the best designs are by Ariens and Toro because they have optional grass catchers, which are handy for times when there are lots of leaves on the ground. Bolens and Homelite make good mulchers but offer no optional bagging attachment.

**Philadelphia's Composted Sludge:** sold in bags in local nurseries under the trade name "Earthlife." Call 1-800-EARTHLI for nurseries in your area.

**Top Dresser:** \$165, Ringer, 9959 Valley View Road, Eden Prairie, MN 55344, 800-654-1047.

**Bioactivators (microbes):** Ringers Lawn Restore, Ringer, 9959 Valley View Road, Eden Prairie, MN 55344, 800-654-1047; Necessary's BioActivator, Necessary Trading Co., P.O. Box 305, New Castle, VA 24127, 800-447-5354.


**For More Information:** Authors offer two tips sheets with more detailed how-to information; *Renovating the Lawn*, 6 pages, \$1; *Caring For The Lawn*, 6 pages, \$1; Add \$1 for postage and handling; New Response, Inc., P.O. Box 338, Springfield, PA 19064.

Liz and Jeff Ball have just completed their seventh book entitled "Yardening" to be published in November by Macmillan Press. Jeff appears monthly on the TODAY Show to talk about gardening and yard care.



# MANAGING YARD WASTE WITH THE THREE R's

## *Reduce, Reuse, Recycle*

 by Jeff and Liz Ball

*You can ease the pressure on landfills.*

It is happening in the Delaware Valley just as it is happening in 30 states across the country. Under the pressure of overflowing landfills and rising trash pick-up fees, state and local governments are making homeowners responsible for dealing with the refuse generated from their yards and gardens. The days when leaves, prunings, grass clippings, twigs and bark could be put out of sight in plastic bags and out of mind at the curb for trash pick-up are nearly over. These materials take up 30% of our scarce landfill space and the time has come to find other ways to process them.

The most practical alternative is for homeowners to process their own yard waste at its source, in their yard. By employing a variety of simple techniques, a family can minimize, even eliminate, the yard waste formerly destined for the trash-stream and reap many benefits as well. With just a little extra time and trouble, it is possible to simultaneously benefit the soil and plants in the landscape and address the national trash problem.

The first step is to **REDUCE** the amount of yard waste generated on your property. The next step is to find ways to **REUSE**, around the landscape, as much as possible of the leaves and grass clippings that inevitably accumulate. The final step is to **RECYCLE** any yard waste that cannot be reused by composting it. After several years of trial and error we have found that, for those who are willing to go the route, it is possible to eliminate virtually all yard—and even kitchen—waste from our trash. Whether your goal is to try for zero yard waste or just to handle as much as you

can conveniently deal with, the following steps will make a big difference on trash day.

### **REDUCE** yard waste

We can reduce in many ways the amount of grass and leaves that make up most of the yard waste in residential landscapes. Some take more energy and time than others. Some require renting or purchasing new equipment and some require learning new skills. We certainly do not need to cut down all the trees and turn the lawn into a cement patio. We can reduce yard waste by as much as 45% by implementing these measures.

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*A large ring of organic mulch on the soil around the base of all trees will protect them from their greatest danger—**injury by weed trimmer, lawn mower or other yard-care equipment.***

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### **Leave Grass Clippings**

Since grass clippings represented nearly 45% of the yard waste dumped in landfills before the recent rush of restrictive legislation, the best place to start reducing yard waste is to leave them on the lawn when mowing. Not only is “grasscycling” an easy way to get rid of them, it’s also a good way to add nitrogen and valuable organic material to the soil as they decompose on the turf. For best results, use a mulching or recycling mower, or mow in a pattern so that clippings are blown toward the unmowed grass and recut and chopped fine by the next pass.

### **Reduce Lawn Size**

Of course, an obvious way to reduce yard waste in the form of grass clippings, if you choose to collect the clippings, is to reduce the area of the yard devoted to grass

in the first place. Plant portions of the yard in low-maintenance ground covers, or mulch trees, shrubs and paths with wood chips or even gravel to help conserve water and minimize mowing. Consider putting in patches of wildflowers to minimize the turf area.

### **Fertilize Less**

Healthy grass will thrive with just one application of granular, slow-release fertilizer in the fall. By eliminating repeated fertilization during the growing season you eliminate the periodic surges of growth and, thus, reduce the amount of grass to be cut. The slower the rate of growth of the grass, the fewer clippings produced.

### **REUSE** yard waste

#### **Leaf, Wood Chip and Grass Mulch**

Chopped leaves and grass clippings, the bulk of your yard waste, are valuable organic material ideal for mulching the trees, shrubs, vegetables and ornamental plants throughout your landscape. Because they decompose over time, they provide a source of nutrition for existing plants while they suppress weeds, block evaporation of moisture from the soil, discourage water run off from heavy rains and condition the soil over plant roots.

A large ring of organic mulch on the soil around the base of all trees will protect them from their greatest danger—**injury by weed trimmer, lawn mower or other yard-care equipment.** A winter mulch around newly planted trees, shrubs and perennial flowers and over bulb beds helps stabilize the soil’s winter temperature. While it does not prevent freezing, not in itself harmful to hardy plants, it does insulate the soil against extreme temperature fluctuations, which disturb plant roots.

If you choose to collect grass clippings, reuse them as a mulch. Spread them on the soil in successive thin layers, so they can

*continued*





Top left: A tumbler type of compost maker permits frequent turning and produces compost quickly. It's ideal for handling kitchen waste exclusively.

Bottom left: View of authors' compost bin with compost. The hardware cloth sides admit plenty of air; the removable wood slats make them accessible for turning and emptying.

Top right: While most commercial compost bins are simply boxes, this one, by Ringer, opens up so that the contents can be mixed and easily removed.

Bottom right: Mulch around trees, shrubs and flowers in a woodland garden.

dry out in the sun, which avoids problems with odor. Reuse leaves that have been shredded or chopped by running the lawn mower over them. Also, reuse branches and hedge trimmings that have been run through a chipper to make wood chips as mulch.

Cover all bare soil with mulch. Soil

exposed to the harsh influence of sun and wind in any season dries out rapidly, becomes compacted and loses its capacity to support healthy plants. Spread the leaves, grass clippings or wood chips at least 2 in., preferably 3 in. thick. Take care not to pile mulch too closely around plant stems or so thickly that it smothers the roots.

### Wood Chip Paths

If you have access to shredder/chipper equipment, turn brush, fallen twigs and prunings into wood chips to reuse around the landscape. In addition to mulch, wood chips make excellent material for paths and play areas where compacted bare soil has long since given up trying to produce



grass and collects water to make mud instead. We use wood chips as a driveway surface. Unlike most paving surfaces, wood chips permit rain to soak into the ground where it can be available in the water table, rather than run off down the sewer where it may contribute to flooding problems and be wasted. By reusing yard waste in this manner and as mulch it is possible to reduce the amount destined for the trash by another 35%.

### **RECYCLE yard waste**

Efforts to reduce and reuse yard waste will eliminate a significant proportion of the organic refuse formerly put out as trash. What remains can be recycled, and in the home landscape, recycling means composting. It is a simple matter to put accumulated leaves, grass, weeds, twigs and vines, and even vegetable peelings from the kitchen, in a pile somewhere in the backyard and allow it to decompose. Over time, even without human intervention, these materials will turn into valuable humus that can then be returned to the lawn or garden soil. With judicious human intervention, this process can be streamlined so that one year's yard waste will be transmuted into humus by the time the following year's leaves begin to fall again.

It is the enormous numbers of microorganisms — bacteria, fungi, and actinomycetes (microscopic plants that decompose organic matter) — that actually do the recycling in a compost pile. If they have the oxygen, moisture, carbon and nitrogen they need to thrive, then they go to work on the yard waste. Their activity breaks down the materials, under certain circumstances generating heat that kills weed seeds and organisms harmful to plants and animals. The compost that results is enormously useful as a soil conditioner, mulch and amendment all over the yard.

### **Benefits of Compost**

Adding compost to soil improves its humus content. Healthy soil is 3 to 5% humus of some kind, and compost is ideal for this. Worked into the soil by you or by the natural activity of earthworms and other soil-dwelling creatures, compost improves its texture and structure. It improves the soil's ability to drain excess water from around plant roots more effectively, while simultaneously improving its water-holding capacity. Although it is not technically a fertilizer, compost does break down over time into the basic nutrients used by plants to make food. You can't exaggerate its value to lawns, trees and shrubs, flowers and vegetables.

### **Two Composting Methods**

Composting is as much art as science. While every backyard composter has his or her own particular method, there are basically two approaches to this process. One is simply to let nature take its course. Sometimes called the passive method, it consists of piling organic materials in a designated area, either with or without

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### ***Composting is as much art as science.***

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shelter, and waiting. Depending on the type and size of the materials in the pile, the speed of decomposition will vary, but it may take several years for the yard waste in a passive compost pile to turn into humus.

The other approach is to manage the process by controlling the size and amount of various materials deposited in the pile. Actively encourage the decomposition by shredding the brown (carbon) and green (nitrogen) materials into smaller pieces. Turn or mix them periodically to add oxygen, which encourages the microbial action within the pile. Consider adding a compost activator product to increase the population of microbes. Homeowners trying composting for the first time usually develop a method that is a comfortable compromise between ignoring the pile and managing it frequently.

### **Selecting a Compost Bin**

While organic materials will decompose on their own without any special container, homeowners usually prefer to house them in some sort of container in the backyard. At the very least it looks more attractive. For a pile that will sit until it is decomposed, a simple bin with a cover is sufficient. For a managed pile, where you require access to turn the materials, use a container with a removable side or a door.

Most commercial compost bins are too small to generate an internal temperature high enough to make turning the pile very often worth the effort. If you buy a commercial bin, you should probably plan to compost with the passive method. To develop an active composting system, you really need to build your own bin. The minimum size of an active bin should be 3x3x3 feet (a 4-foot cube is better), which holds 27 cubic feet or 22 bushels of organic material. Whatever the size, the bin should not be more than two times higher than it is wide so enough air can reach the materials in the center.

### **Building Your Own Compost Bin**

A variety of materials can be com-

maned to build compost bins. Many homeowners find it especially fitting to recycle building materials into compost bins to be used, in turn, to recycle yard waste. Cement blocks left over from a construction job are ideal, as are used wooden pallets and discarded gates. Lengths of snow fencing, turkey wire, or hardware cloth are easily fashioned into lightweight cages that will hold copious amounts of yard waste.

Wooden bins made of regular or scrap wood are easy to build and often last at least five years or more. Bins made from pressure-treated lumber, especially the kind rated for contact with soil, should be good for several decades.

Because access of oxygen is so important, a properly designed bin should have some sort of openings on the sides. Features such as built-in slits or holes drilled into its sides, spaces between side boards or sides made entirely of wire all accomplish this purpose. It is a good idea to cover a compost pile, so a bin should have its own lid, or a tarp or plastic sheet available to avoid periodic soaking by heavy rains and snows, which retards the decomposition process.

Regardless of the type of bin or the method of composting, recycling yard waste in this manner reduces remaining yard waste by 25%. For those who choose to go the whole nine yards and undertake a purposeful program of reducing, reusing and recycling their yard waste, the cumulative reduction of their contribution to the trash will be nearly 100%. For the rest of us, any one of these measures will significantly reduce trash volume and ease the pressure on public landfills.

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Jeff and Liz Ball's seventh book *Yardening* will be published in November by Macmillan Press. Jeff appears monthly on the Today Show talking about gardening and yard care.



# SOILS:

## WHAT ARE THEY AND HOW DOES ORGANIC MATTER IMPROVE THEM

 by Jeff Jabco

**M**ost gardeners can tell a "good" soil from a "poor" soil. They know "poor soils" are droughty, compacted, hard when dry, low in fertility, as well as too rocky, poorly drained or too shallow. The soils from one area to another can vary greatly and depend on man's influence (e.g. strip topsoil or compact during construction) and nature's influence (the rock from which the soil derives, rainfall, fluctuating temperatures and erosion). Soils influence the health and quality of plants grown in it; and soil can be a scourge or a blessing to the gardener.

### *what makes up soil?*

An average topsoil consists of four components:

1) **Mineral:** makes up approximately 45% of a soil's volume and derives from the naturally occurring mineral layers in the earth's crust in that locale. This may vary from limestone to granite to gneiss, and there are many types around the world.

2) **Organic:** in our soils it usually varies from 2% to 5% by volume. It's made up of living and once-living organisms and materials: decaying leaves, twigs, roots, earthworms, nematodes, fungi, bacteria and other microscopic organisms and remains of organisms.

The pore space in soil is composed of:

3) **Air:** 20 to 30% by volume, and

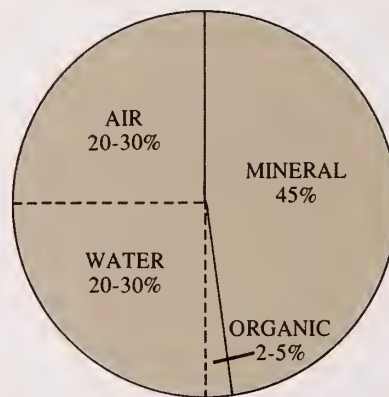
4) **Water:** 20 to 30% by volume.

Soils are classified according to their mineral content, which can affect the nutrients available for plant growth. Soil texture is determined by the size of mineral particles and grouped into sand, silt and clay. Sand particles are the largest and clay particles are the smallest. The "loam" that all gardening books refer to is a mixture of these three particles and plenty of organic matter. The texture is the "feel" of a soil as you rub it between your fingers. A clay soil feels fine textured because of its very small particle size.

Clay soils are sticky when too wet; they

drain poorly, are hard and cloddy when dry, but retain well the nutrients plants require. Because clay particles are so small, they have small spaces between the individual particles. Therefore, clay soils drain slowly but they also have a high water-holding capacity.

A **sandy** soil, on the other hand, has a coarse texture and feels gritty to the touch. Sandy soils have good drainage and aeration, but the low water-holding capacity does not promote good plant growth. A sandy soil is not usually fertile because the



Approximate Components of Topsoil

nutrients easily leach through and the elements are not bound to the individual sand grains.

**Silt** has particles intermediate in size between sand and clay. Most soils consist of a mixture of all three particle sizes and exhibit properties of each class.

All of these components together make up the soil structure. The individual soil particles bind together and form a semi-rigid sponge-like mass. The small spaces within the clumps hold onto water and the larger spaces between the clumps provide drainage and aeration.

When the soil particles are pushed together, soil compacts thereby reducing soil volume, pore size and porosity. Compacted soils, then, are poorly aerated and drained, which usually limits plant growth.

### *the "miracle cure"*

Organic matter helps to bind the particles together and helps to lighten and expand the clumps, thereby increasing pore space. The humus, or decomposed organic matter, reacts electrochemically with the soil particles, which leads to organizing and maintaining the soil clumps. Microbial materials encourage granulation and help to maintain this structure. Decaying organic matter and silica unite chemically to make up clay particles. Humus holds onto water in the soil and this helps to modify the effects of fluctuating temperature and moisture.

Organic matter, then, affects the soil chemically, physically and biologically.

### *increase organic matter in the soil*

Even though the organic matter component in soil is very small, it greatly affects the quality of the soil. To increase organic content, we can add compost, mushroom soil, composted sewage sludge, incorporate a green manure cover crop or use organic mulches.

A compost pile offers a great way for every gardener to rid themselves of yard waste, help the ecology and improve their garden soil. Compost is the dark, earthy-smelling, crumbly form of decomposing organic matter. Composting returns organic matter to the soil in a form plants can use. Compost adds nutrients to the soil and improves its texture, water-holding and nutrient-holding capacity.

Compost can be worked into any area of the garden destined for vegetables, ornamentals or turf. Mushroom soil\* can be used in the same way, but ensure that it has weathered sufficiently to leach out excess soluble salts and remains of any pesticides that were used in mushroom production.

\* Mushroom soil is available for bulk delivery from many garden centers, landscapers or topsoil delivery services. Refer to the yellow pages under "Landscaping," "Nursery" or "Topsoil."



Many townships and park systems now offer leaf compost to residents. Legislation in several states prohibits putting leaves in the regular trash system because of limited landfill space. Some municipalities have designed active composting systems where the leaves are shredded, placed in long windrows, watered, mixed and turned occasionally. This speeds up nature's process and produces a fine compost in several months for homeowners and landscapers to use. Swarthmore College and the Borough of Swarthmore have cooperated on composting leaves from the town and campus for many years. In this passive

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***If yard wastes (leaves, grass clippings, twigs, etc.) were composted by homeowners, it could save the city \$2 million per year.***

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system, the leaves are collected in the fall and placed in six-foot-high windrows. The leaves are turned twice a year, and by the third year have produced a dark, moist, rich compost that occupies less than one-tenth the original space of the leaves. This non-intensive system relies on nature's rainfall

and natural microbial activity. Nasty weeds that have self-sown into the piles while composting create problems. Annual weeds, like chickweed, are easy to control when using the compost, but be vigilant with more bothersome weeds, like bindweed, when using compost as a soil amendment.

Large composting systems like Swarthmore's are monitored by the state (in Pennsylvania, the Department of Environmental Resources) to make sure they meet specifications. There can be a problem with water runoff from the composting site because it may contain liquids, which leach out of the piles during composting.

*continued*

photos by John P. Swan



Top left: Nature's own before and after "miracle"; freshly fallen leaves become crumbly clean compost, rich in minerals and organic material in two years. Bottom left: Acres of leaves end up in two years as garden-ready compost in 20-foot-high mounds shown in background. Green cover crop is mostly shallow-rooted annuals, which are recycled.

At right: Author Jeff Jabco inspects friable texture of third year mound of leaf compost.



# SOILS

On a home scale, runoff is not a problem because of the small size of the compost piles.

## *working in wood chips and mulches*

Wood chips or shredded hardwood bark are commonly used as mulches around ornamentals, and, these too, may help in the addition of organic matter. Unfortunately, most of this organic matter stays on top of the soil because chips and bark are used as a topdressing. When beds are reworked, or new planting is going on, the mulch should be tilled or dug into the soil. Don't use fresh wood chips lest they rob the soil of nitrogen, which microbes use to break down the wood. Wood chips should be composted, possibly for several seasons before they are used as a mulch. Don't buy shredded bark from nurseries where the piles are much higher than five feet for long periods of time. In such deep piles, anaerobic (without oxygen) composting takes place and the by-products produced may be harmful to plants, as well as smelly.

Composted sewage sludge is a relative newcomer to the backyard piles of goodies for the garden. Sewage sludge may be mixed with wood chips, composted and then screened into a material that can be used around ornamentals and for turf renovations. This material is not recommended for edible fruits or vegetables — just to be cautious — even though it seems heavy metals are no longer a problem.

Green manure cover crops are a great way to incorporate a lot of organic matter into tilled areas like vegetable beds. In September sow grasses or legumes (such as annual ryegrass or hairy vetch) in vacant areas of the garden, or even between the remaining standing vegetables. In spring, mow the crop and dig into the soil.

Organic matter has a great effect on soil and the plants grown in that soil. A "good loam" can be maintained and a "poor soil" can be made more productive by adding organic materials regularly. The health and vigor of landscapes and gardens depend on what is commonly overlooked and tread upon — the soil.

## **Tips on Caring for Your Soil**

Good gardeners, meticulous about caring for their plants, should use as much thought and effort to care for the soil. These ideas will help to improve your gardening practices and aid your garden's soil. Your plants will thank you for it!



photos by John P. Swan



Top: The darker bottom layer of year-old leaves and pine needles will soon be friable, garden-ready compost for Ann and John Swan.

Bottom: Leaves piled in an out-of-the-way garden corner, turned over periodically, can reward you with clean, rich organic compost in one year.

- **Take a soil test.** A soil may look rich, but you can't tell the nutrient content just by looking. Soil tests are inexpensive and are available from your county's cooperative extension office. These tests can tell you the pH, levels of phosphorus and potassium and recommend modifications based on the crops or plants you specify.

- **Don't work soil that is too wet.** Tilling, digging, cultivating and raking can ruin a soil's structure if the soil is too wet. Pore spaces become compacted and large clumps form which, with a soil high in clay, make hard brick clumps when dry that are difficult to break apart or moisten.

- **Don't overwork your soil.** Excessive tilling, cultivating and raking may, especially if the soil is dry, ruin soil texture by breaking apart the clumps of soil particles. The soil texture becomes very fine, almost like powder, and the larger pore spaces are lost. Remember, these pore spaces promote good drainage and maintain air in the soil. Overworking also leads the organic matter in the soil to decompose faster.

- **Prevent compaction.** Whether it is from construction equipment or from constantly walking between the rows of vegetables in your garden, heavy weight and foot traffic may force the soil particles closer together.



This decreases pore space which, in turn, creates poor drainage. Control the areas in which heavy machinery is used in home construction or renovation. In the garden, use wood chips for paths and make vegetable beds accessible by paths or through the use of raised beds.

### Learn Through the Master Composting Program

As a result of the serious trash crisis, several cities have started educational programs to teach residents about the benefits of composting yard wastes to reduce trash volume. Seattle has had a program since 1986 and just this past spring, the Pennsylvania cities of York and Philadelphia initiated the "Community Composting Education Program," based on the successful Master Gardeners' program run by Penn State Cooperative Extension. Tom Becker, extension agent in York County and Marion Luongo, master composting agent in Philadelphia are responsible for their cities' respective programs.

Philadelphia's program is sponsored by the Philadelphia Recycling Office, the Pennsylvania Department of Environmental Resources and Penn State Cooperative Extension/Philadelphia County. According to Luongo, 10% of the trash in Philadelphia's trash stream is yard wastes (leaves, grass clippings, twigs, etc.) If this material was composted by homeowners, it could save the city \$2 million per year.

Participants in the Community Composting Education Program attend five training sessions to learn about compost biology, bin building, compost alternatives and ways to spread the knowledge gained. Each master composter is expected to donate 24 hours of community service back to the program by lecturing or working on displays for backyard or community garden composting or teaching in schools about composting.

Philadelphia residents interested in learning about composting and willing to share that information in informal ways are encouraged to contact Marion Luongo at Penn State Cooperative Extension, 4601 Market Street, Philadelphia, PA 19139 or call (215) 560-4163.

- **Modify your soil before planting.** Compost, nutrients and pH adjusting material (sulfur or limestone) are easier and most effective when worked into the soil before planting, especially when working with ornamentals.

### Where to find information about soils and composting:

- County Cooperative Extension offices provide information on gardening, soils and composting. They also sell soil testing kits for you to sample your soil to determine nutrient values and pH.

- Pennsylvania Department of Environmental Resources has fact sheets about composting, mulching, mowers and grass disposal. Write to PA Department of Environmental Resources, PO Box 2063, Harrisburg, PA 17120, Attention: Todd Pejack, or call (717) 787-7382.

- Your county's department of solid waste management can answer questions about recycling and inform you of municipalities that have compost available for their residents. (Listed in phone book blue pages by county under Solid Waste or Solid Waste Management.)

- Gardener's Supply, a mail order company selling natural garden products and gardening tools. They have helpful brochures on environment-friendly gardening and composting aids. Write to request free catalog from Gardener's Supply, 128 Intervale Road, Burlington, VT 05401 or call (802) 863-1700.

- See *Green Scene* Soil issue, July 1975, Volume 3, Number 6.

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Jeff Jabco is director of grounds for Swarthmore College and assistant director of horticulture for the Scott Arboretum. Jeff was an extension agent with Penn State Cooperative Extension in Delaware County for six years. He is owner of Countrie Greene, a landscape design and construction business. Jeff has a Master of Science degree from North Carolina State University in Horticulture and Plant Pathology.

### Constructing a Compost Pile

You can have a ready supply of nutrient-rich soil amendment by composting yard waste in your back yard. Grass clippings, leaves, old plants, used potting soil and weeds without seeds can be composted. Don't put food scraps, diseased plants, weeds with seeds, or invasive weeds such as bindweed or quackgrass in compost piles.

The best compost pile size is between 3 to 5 feet high and 3 to 5 feet in diameter. A support or framework will contain the pile. Use wire mesh screen, welded wire or wood to build the framework. Leave one side open or construct a removable side so you can turn the pile occasionally.

The makeup of the compost pile affects the speed of composting. The materials placed into the pile have a carbon to nitrogen ratio. Wood chips and leaves (ratio of 60:1) are high in carbon; green materials such as grass clippings (ratio of 20:1) have a higher nitrogen ratio. The microbes that break down organic material need this carbon and nitrogen to fuel their activity. The ideal ratio is 30:1, which you can achieve by mixing or layering two parts grass clippings to one part leaves. At a ratio of 30:1, the compost gives off heat and will decompose quickly. Higher ratios (more leaves or "woody" material) are fine for a compost pile but it takes longer for the material to break down. Shredding leaves or other dry materials helps to speed up the composting process.

Keep compost piles moist but not excessively wet. Add water during dry summer spells. Turning the pile helps incorporate the non-decomposing material at the edges of the pile and also helps to aerate the material. How often you need to turn the pile depends on how fast the composting occurs, which is affected by its housing and the air temperature. In the summer, turn your well-constructed pile every few weeks. After one to several months of decomposing, you can work compost into areas of the garden and give plants the benefit of growing in an enriched soil.





## Incorporate Integrated Pest Management Practices



Typical feeding damage caused by adult black vine weevils. The adult actively feeds during the night and hides in the ground litter during the day. Apply pesticides in the late evening; direct at the base of the plant.

**I**ntegrated Pest Management (IPM) is a system for managing pests, that takes the environment and people, mammals, birds, fish and beneficial insects into account before we treat plants for pests. IPM uses different strategies, i.e. resistant varieties, sanitation, biological control, chemical control, mechanical control, etc. to suppress pests so we do not rely solely on pesticides for control. IPM is not intended to eliminate pesticides but encourages using environmentally safe pesticides at the most effective time according to the pests' life cycles. Essentially, IPM is a common-sense approach to pest management.

Longwood Gardens initiated an IPM program in the mid-80s when they hired their first integrated pest manager. Longwood took this more comprehensive approach to pest management so it would be able to depend less on chemical controls.

You can apply important components of Longwood's IPM program to manage pests in the home landscape. By incorporating some of these components, you can reduce the amount of pesticide released into the environment and still suppress pest populations to tolerable levels. Such IPM strategies include: 1) promoting plant health, 2) sampling and monitoring, 3) considering





photo by V. Bruce Steward, Longwood Gardens

*IPM*

At left: The Integrated Pest Management program at Longwood Gardens seeks a balance between producing and maintaining beautiful displays and managing pests.

Right: Early stage of damage to birch leaves caused by larvae of the birch leafminer. Young larvae are at the most vulnerable stage; when larvae densities are above tolerable levels, begin treatment at this stage.

## into the Home Landscape

by V. Bruce Steward

biorational treatment options, and 4) safely disposing of pesticides.

### **promoting plant health**

Scientific studies show that plants under stress are more susceptible to pest attack than healthy plants. Proper planting, fertilizing, watering and pruning all affect plant health. Understanding plant requirements is essential to promote plant health. The easiest and best method to ensure strong and vigorous specimens is to select pest-resistant plants suited to the area. Cornell University's Cooperative Extension developed a list of deciduous trees well adapted for small residential properties and relatively pest-free (*Garden Guides*, Vol. 32 No. 10). We modified the list slightly, eliminating potentially problematic trees in the southeastern Pennsylvania area and adding a few trees suited to the area not mentioned in Cornell's list (see table on page 19).

Pests attack even healthy, vigorous plants occasionally. To effectively manage these pests, we must understand their life cycle and behavior so we can appropriately plan when and how to treat them. The egg and pupal stages of many insects, for example, often resist pesticides. Where pests inhabit

or feed on the plant is critical for determining where to apply pesticides. The black vine weevil is a serious woody ornamental pest causing marginal leaf notching. Because the adult actively feeds during the night and hides in ground litter or duff during the day, it's crucial to apply pesticides late in the evening and to concentrate them at the plant's base and at the ground litter beneath the plant. Knowing this means you apply less pesticides more effectively and less frequently.

### **sampling and monitoring**

Sampling and monitoring is the backbone of any effective IPM program. Early detection and management will help keep pests at a tolerable level, rather than requiring a "fire-fighting" approach. Sampling and monitoring can be performed while weeding, mowing, watering and pruning.

An aid in monitoring pests is plant phenology, a branch of science that deals with the relations between climate and periodic plant development. Plant phenology has for many years been used to predict insect activity, and recently Donald Orton's book *Coincide* (Plantsmen's Publications, Royal Horticultural Society, London, England, 1989\*) linked plant phenological

characteristics to pest activity. Because temperature is a key factor that regulates both plant and insect development, phenological characteristics of a plant, such as when buds break, flowers and leaves appear, and seeds ripen, can be used to predict insect activity. By understanding phenological sequences of plants that correspond with the appearance of insect pests, you can determine when to monitor for certain pests. *Coincide* also provides phenological characteristics of specific plants, which indicate when pests are vulnerable to treatment. Orton links plant phenological characteristics to over 50 different pest species occurring in the landscape and also supplies information about the life cycle and damage of the pest, plus notes on non-chemical controls. For example, when silver maple (*Acer saccharinum*) begins to drop seed or black locust (*Robinia pseudoacacia*) begins to bloom, it's time to monitor leaves of birch trees for the young larvae of the birch leafminer. This is the insect's vulnerable stage and if densities are above a tolerable level, you should treat immediately.

\* Available through the Pennsylvania Horticultural Society Library.

*continued*





Canadian hemlock infested with the hemlock wooly adelgid. The cottony white mass covers the adelgid and their eggs. The use of oil against this pest has been shown to be as effective as applications of conventional pesticides.

### **biorational pesticides**

If cultural, biological, or mechanical controls do not reduce a pest population to an acceptable level, then a "biorational pesticide" may be an option. A biorational pesticide is generally less toxic to mammals and other non-target organisms than conventional pesticides, and they are safe or friendly to the environment. Some of the more important biorational pesticides we use at Longwood include highly refined horticultural oil, insecticidal soap, and *Bacillus thuringiensis*. In addition, Margosan-O, a new botanical insecticide marketed by Grace-Sierra, will be tested at Longwood this year for its effectiveness against certain pests.

**Highly Refined Horticultural Oil.** In the past, horticultural oils have been associated only with dormant sprays. Horticultural oils now available have been highly refined to remove impurities (sulfur, chlorine, and nitrogen) poisonous to plants in leaf or active growth. The oil's mode of action is physical instead of chemical, which reduces the possibility of insects developing resistance to it. Oil kills pests by two methods: first, it suffocates the pest by clogging its breathing tubes and, secondly, it interferes with cell metabolism.

For horticultural oil to be effective, you must cover the pest with the material.

### **Books about Pests in the Landscape:**

*Insects That Feed On Trees And Shrubs*, Warren T. Johnson & Howard H. Lyon, Cornell University Press, 1988.

*Diseases Of Trees and Shrubs*, Wayne A. Sinclair, Howard H. Lyon & Warren T. Johnson, Cornell University Press, 1987.

These books are available through the PHS Library.

### **Sources for Biorational Products:**

Gardens Alive! Hwy. 48, P.O. Box 149, Sunman, IN 47041.  
(812) 623-3800. (Highly refined horticultural oil, insecticidal soap, and *Bacillus thuringiensis*)

Grace-Sierra, Horticultural Products Company, First City Bank Center, Suite 614, 100 N. Central Expressway, Richardson, TX 75080.  
1-800-233-1297.  
(Margosan-O)

Highly refined horticultural oils have been effective against a number of pests attacking plants at Longwood: aphids, scales, mites, hemlock wooly adelgid, whiteflies, and mealybugs). A recent study\* shows using oil against the hemlock wooly adelgid has been as effective as conventional pesticides without producing the negative environmental effects.

Research performed at the University of Maryland shows that repeated applications of horticultural oils have a "tremendous plant safety margin" on outdoor ornamental plants, even during hot and dry summer periods. Horticultural oils are relatively safe to beneficial or non-target organisms because once they evaporate, they dissipate and don't leave long-lasting residues.

In addition to being an effective insecticide and miticide, oil has some fungicidal properties as well. When you spray oil on a leaf, it forms a coat that acts as a barrier to germinating spores and prevents them from penetrating the leaf. A solution of 1% oil and 0.5% baking soda effectively reduces powdery mildew on greenhouse roses when sprayed over the leaves (Dr. Kenneth Horst,

\* "Biology and Control of Hemlock Wooly Adelgid," M.S. McClure, Connecticut Agricultural Experimental Station Bulletin 851 (9 pp.) 1987.





Department of Plant Pathology, Cornell University, Ithaca, New York). In some instances, this solution has almost totally eradicated the disease.

Oil also has synergistic qualities when mixed with insecticides; oil is not compatible with most fungicides. Oil helps spread the compound evenly over the insect and plant, thus providing better coverage and control.

**Insecticidal Soap.** Insecticidal soap is similar to highly refined horticultural oil in that its mode of action is also physical. Potassium salts of fatty acids are this product's active ingredient; the inert ingredients are water and alcohol. The fatty acids are obtained from plant and animal oils and added with potassium bases. Combined, these two materials produce a product that can rapidly kill the pest by acting on the cell membrane causing the cell's contents to leak.

At Longwood, soap has been effective against aphids, lace bugs, psyllids, whiteflies, hemlock wooly adelgids, mites, and leafhoppers.

To be effective the insecticidal soap must bathe the pest because once the spray dries insecticidal action stops.

Because phytotoxicity (plant poisoning) has been more common with insecticidal soap than with oil, its future may not be as promising as for highly refined horticultural oil. Insecticidal soap, like horticultural oil, has the advantage of being relatively non-toxic to the environment or non-target organisms (humans, beneficial insects, birds, fish, honeybees).

**Bacillus thuringiensis.** *Bacillus thuringiensis* (B.t.) is a naturally occurring bacteri-

um that paralyzes certain insects' guts (when they ingest it). Dying may occur over several days, although feeding usually ceases shortly after ingestion.

Until recently, B.t. was effective against only caterpillars and mosquitoes, but a newly developed variety, B.t. *san diego*, is effective against two beetle species: the elm leaf beetle and the Colorado potato beetle. M-One, the tradename for this material, will possibly open the way for new B.t. varieties for other beetles or pests. B.t. remains active on the leaf for only a short time (two to seven days), and repeated applications are necessary to provide adequate control. It is essential that the material be placed on the leaves when you see the young beetle larvae because it is not as effective against large larvae or adults.

B.t. is effective against insects only and will not negatively affect the surrounding environment.

**Margosan-O.** A natural extract from seeds of the neem tree (*Azadirachta indica*), Margosan-O will reach the market this year. Margosan-O reportedly has three different modes of action. Primarily it is an insect growth regulator. When Margosan-O is eaten or diffuses through the insect's exoskeleton, the pest usually cannot molt to its next stage and is crippled, unable to reproduce, or dies. In addition to being an insect growth regulator, Margosan-O has been reported to reduce egg production and also acts as an antifeedant (makes a plant undesirable for feeding).

The extracts from the neem tree have been used to control a number of pests for centuries in Africa and India, where it grows naturally. Margosan-O is biode-

gradeable and safe to humans and other non-target organisms. It is registered for a number of greenhouse and ornamental pests, including whiteflies, thrips, mealybugs, caterpillars, and leafminers. This product provides a delayed control rather than the quick kill you expect from conventional insecticides. The product looks promising, and we hope it will prove to be a good alternative to conventional insecticides.

### pesticide disposal

When you use pesticides, be it biorational or conventional, the way you dispose of the rinse water and pesticide containers is important. The first step in managing pesticide waste is not to overestimate how much material you will need to treat an area. By correctly determining what you need, you will not have to dispose of leftover spray material.

When rinsing the spray tank or pesticide container, it is recommended that it be triple rinsed and the rinse water be disposed of according to the instructions on the label. The rinsed pesticide container should then be punctured, crushed or made unusable, and disposed of in a sanitary landfill. Check with your local municipality about their programs for other ways to get rid of pesticide wastes.

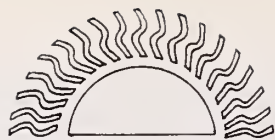


V. Bruce Steward received his Ph.D. in Entomology from the University of Arkansas. He has been the Integrated Pest manager at Longwood Gardens since February of 1990, and in his spare time he enjoys gardening and studying landscape pests.

## Ornamental Trees Suited to Small Residential Properties and Relatively Pest Free

Common Name	Scientific Name	Common Name	Scientific Name
Hedge maple	<i>Acer campestre</i>	Paperbark maple	<i>Acer griseum</i>
Shadbush	<i>Amelanchier</i>	Fringe tree	<i>Chionanthus virginicus</i>
Pagoda dogwood	<i>Cornus alternifolia</i>	Japanese flowering dogwood	<i>Cornus kousa</i>
Cornelian-cherry	<i>Cornus mas</i>	Washington hawthorn	<i>Crataegus phaenopyrum</i>
Winter King hawthorn	<i>Crataegus viridis</i> 'Winter King'	Carolina silverbell	<i>Halesia tetraptera</i>
Golden-rain tree	<i>Koelreuteria paniculata</i>	Sourwood	<i>Oxydendrum arboreum</i>
Persian parrotia	<i>Parrotia persica</i>	Japanese snowbell	<i>Styrax japonicus</i>
Japanese tree lilac	<i>Syringa reticulata</i>	Chinese elm	<i>Ulmus parvifolia</i>
Siebold viburnum	<i>Viburnum sieboldii</i>		





# A Solar Decade in Three



by Mary Lou Wolfe

**Solar  
greenhouses:  
Interesting  
experiments  
or practical  
energy savers?**

The Dorwarts' balcony has proved to be a handy, efficient space for drying laundry. The staircase, off the balcony, leads down to the hot tub.



photos by Mary Lou Wolfe



# Delaware Valley Greenhouses

Ten years ago three pairs of experienced Delaware Valley gardeners launched three very different projects aimed at using winter's solar energy to grow the plants that interested them. Bob and Dodie Freeman and daughter, Lisa, built a completely passive solar structure in Frazer, Pa. Pete and Bonnie Dorwart added a two-story solar greenhouse to their suburban Bala Cynwyd home and office. Out in Chadds Ford, Toni and Ted Brinton incorporated a solar growing space in the design of their new hillside home.

On a Pennsylvania Horticultural Society greenhouse visiting day I was among many of the members who toured the Dorwarts' new structure. I was awed at how it transformed a 1930's era house into a bright, airy family space. I saw the Freemans' pit structure on a beastly hot July 1980 day when they opened it for a public visit as specified in the terms of the Department of Energy grant they had received to build it. Along with 100 other visitors, I signed the guest book, marvelled at this compact, bright space, and wondered whether it would really work. These were the years of the first major oil crisis, huge increases in heating costs and thriving experimentation with alternative energy sources. Solar experimentation was the rage. Penn State University, the Rodale organization at Emmaus and Longwood Gardens all had demonstration solar projects and publications that analyzed siting, heat storage materials, glazing and ventilation.

I wondered how well these solar spaces were working in our not too sunny Delaware Valley area where the U.S. Weather Bureau reports 160 cloudy days, 112 partly cloudy days and 93 clear days per year. Many of the 93 clear days occur in summer when solar structures are empty. Were solar greenhouses really practical in this climate or were they interesting experiments that had run their course, not meriting repeating.

I soon realized that the Weather Bureau's gloomy statistics had little effect on these good gardeners. Toni Brinton says, "I'm a person who needs light, and at this time of year (January) to go into the greenhouse is the most therapeutic thing for me." Chemist Pete Dorwart feels strongly that "It's environmentally responsible to engage in low energy greenhouses." For Bob Freeman, retired math teacher and award-winning

miniature room builder, I think it was the design challenge of a solar structure and the enthusiasm of his horticulturist daughter Lisa that motivated his project.

## *solar purists*

Bob Freeman says of his solar pit greenhouse in Frazer, "When you walk in here on a horrible, cold, windy, miserable day and it's warm in here, it's still sort of a surprise that it does work." The greenhouse that Bob and Lisa designed and built was thoroughly described in their September 1982 *Green Scene* article. Nevertheless, visiting the structure one February day, it took me a while to realize that the only utility that serves this greenhouse is a water

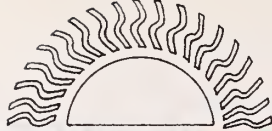
line. No electricity for lights or standby heat or fans. The ventilators at the peak of the slanted roof are "Heat Motors" that open when a fluid inside their cylinders expands from rising solar heat. During more than a decade of winter temperature readings, 41°F is still the lowest temperature the pit house ever reaches.

Dodie Freeman is the low temperature watchdog who cocks her ear on cold nights listening to the evening weather forecast. Any prediction of temperatures below 16°F requires a trip down the hill to the greenhouse. Bob, flashlight in hand, climbs up on a bench and lowers the protective insulated panels that help to keep the heat stored in 300 black water bottles and in the gravel

Bob Freeman holds a geranium by the row of five-gallon plastic water bottles that store solar heat in the greenhouse.







Top left: The Dorwarts' two-story greenhouse addition faces almost due south. The four small white framed windows at the bottom crank open for ventilation and when the roof vents open, create a chimney effect.

Bottom left: View of the Dorwarts' south wall from the hot tub landing. A *Cereus azureus* to the far right, a *Euphorbia* next to it on the left.

Top right: Exterior of the Freemans' solar pit (photographed in February '91).

Bottom right: Bob Freeman stands on a bench to demonstrate how he folds down heat-saving insulated panel on cold night.

floor, from escaping. Dodie reports that during the 1990-91 winter, only 10 nights were cold enough to require lowering the blinds. When folded into daytime position against the north roof, the aluminum-covered sheathing of the shutters provides a shiny surface that reflects light toward the plants. Solar heat that collects in the five-gallon polyethylene water bottles reaches about 60°F and the top stack provides bottom heat for flats of seedlings positioned on top. Dodie and Bob grow fewer vegetables now than in the first year of operation because they can't eat the crops fast enough. Herbs, salad greens and the patio tomato 'Pixie' (which Lisa starts from cuttings in August) are favorites. While Dodie showed me acacias, jasmine (*Jasminum officinale*), stephanotis (*S. flori-*



bunda), fuchsias and a spiky blue-flowered coleus (*C. thyrsoideus*), her fingers groomed the plants and her sharp eyes sought out “green suckies,” the aphids that had been a problem during recent cold dark February days when the ventilators weren’t open. Dodie said a spraying of insecticidal soap would help with the insect problems, but I was thinking to myself that an electric fan for air circulation on those cold dark days would surely be nice. I asked the leading question; “Is there anything you and Bob would change now after 10 years of passive solar operation, perhaps an electric fan or a standby electric radiator?” I felt like I was offering devilish temptations but Dodie answered, “We’ve always been so proud of having the sun do it all that I’d hate to spoil our record.”

### **family-style modified solar**

Pete Dorwart told me how his solar experiment started on a sunny 10°F February morning in 1980. He was walking around his Bala Cynwyd lot and put his hand on the exterior stone wall on the south side of his house. Dorwart’s 6’10” frame gave him a sizable reach and indicated heat on the stones as far up as he could stretch. In 1977 he and his physician partner, Bonnie, had moved in a solar direction by replacing part of their east-facing front porch roof with two layers of acrylic glazing to provide more light for their growing collection of plants. Pete Dorwart now calls that front porch a 4,000-foot walk-in refrigerator. It accommodates teenagers’ bikes, loaves of bread, sacks of potatoes, a potting table, beautiful camellias and 20 indoor window boxes that line the porch windows. These bloom from February to May with daffodils, narcissus and cyclamen. Physician Bonnie Dorwart’s office is in their home so patients who enter via the walk-in refrigerator enjoy the fragrance and color of spring bloom.

When Pete felt that warm wall around the corner from his front porch, he decided “to build a structure that would serve adequately as a greenhouse and that would have a net negative heating bill.” At that moment he probably didn’t foresee that the space he contemplated would house a hot tub filled at six every morning with three splashing teenage sons or that family laundry would be drying on an upper balcony. He did see that with the kitchen, dining room and upstairs bedroom all opening onto a greenhouse structure, solar-warmed air could be circulated effectively through the house, cutting heating costs. Wanting low maintenance, he chose treated redwood to frame the two layers of plexiglass

used for glazing. Dorwart had discovered on his “refrigerator” porch roof that snow melts very slowly on two layers of plexiglass. He designed his two-story structure so that the non-glazed portion of the roof would be strong enough to walk on, allowing snow removal on the glazed part.

With the massive south stone wall and a poured concrete floor, a good heat sink storage area was created. A standby Dyna-

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***Sitting on the living room floor, night after December night, yard after yard, Ted and Toni fed the material and batting into a reluctant sewing machine.***

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vent heater has never been used because temperatures in the solar space have never gone below 41°F. Ventilation is accomplished with electric roof vents, temperature activated, and low windows on the south face that open to create a chimney effect. Fans push warm air into the dining room and pull cooled air back into the solar space through the upstairs bedroom. On weekends when patients do not visit (needing a steady 72°F in the waiting room) the greenhouse and a wood stove heat the entire house.

Cacti and succulents have long interested the Dorwarts and thrive in the bright two-story space, accepting temperature swings from the high 90°s to low 40°s (F). Now 10 to 15 feet high, some cacti become slightly floppy without wind stress and must be supported by wiring to a wall or post. Fragrant plants like sweet olive (*Osmanthus fragrans*), *Brunfelsia* and passion flower (*Passiflora violacea*) are gradually replacing succulents. There will always be space, however, for two enormous jade plants (*Crassula* ‘Arborescens’) acquired during the first year of the Dorwarts’ marriage, 26 years ago. They were tiny 50 cent plants purchased from Ernesta Ballard’s Northwestern Avenue greenhouse. After summering outdoors these handsome well-proportioned plants are covered with buds that open when they are hauled back into the greenhouse in the fall. Not unlike their owners, one is about a foot shorter than the other and they make a great pair.

### **a “by invitation only” solar playroom**

When Toni and Ted Brinton worked with their architect to incorporate a solar greenhouse into their partially solar house plan, the architect visualized a three-story interior skylighted space with decorative

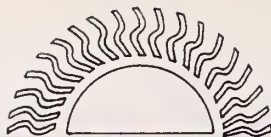
plantings that would serve as a dramatic entryway to the house. Toni was adamant that it be a working greenhouse, not a show place. She explained, “If you’re a sculptor your workshop is not visible when a guest walks in the front door — maybe a finished piece but not a work in progress.” Toni is a plant connoisseur whose “finished pieces” win awards at the Philadelphia Flower Show and whose woodland garden is full of treasures. She grew up in a family that took plants and greenhouses seriously. Her father, L. Wilbur Zimmerman, has grown and judged orchids for decades. Intrigued with the solar possibilities for this hillside house, Toni and her father visited Penn State University and Longwood Gardens’ experimental greenhouses. After analyzing what they really wanted to grow, the Brintons designed a solar compromise, giving up a heat storage wall to gain growing space. They would make up the heat loss with a 20-inch oil-filled electric radiator during the coldest nights.

The 24-foot greenhouse was built in 1982 and filled in the fall with what Toni calls her “horticultural zoo.” There were 25 orchid plants, cuttings and seeds of trees, shrubs and rock garden plants, things that are unusual and difficult to buy. As December approached the Brintons worried that the structure was losing too much radiated heat at night. Ted had a large amount of an experimental Dacron fabric (manufactured by Du Pont), which they reasoned could be filled with polyester batting to make a quilt for the greenhouse. This was definitely a two-person job. Sitting on the living room floor, night after December night, yard after yard, Ted and Toni fed the material and batting into a reluctant sewing machine. Both machine and marriage were stressed, but a 24 ft. by 10 ft. cover emerged that effectively traps radiated heat inside the greenhouse at night. On top of the quilt, two heavy rubberized truck tarps, stitched together, slide over the quilt and afford additional protection. Both curtains are suspended on cables and their 40 pound weight is moved on nautical racing pulleys. Toni and Ted consider pulling the curtains morning and night, part of the country lifestyle: you walk the dog, feed the birds and pull the curtains.

Wonderful plants and blooms come out of this greenhouse. Some are contributed to the Garden Club of America Zone V plant sale and to the Wilmington Garden Center rare plant auction. Others decorate the house. When Toni says that the wide temperature swings (45° to 95°F) limit the quality of bloom on her orchid plants, Ted objects, saying vehemently, “We have

*continued*





Ted Brinton eyes March bloom in the solar greenhouse. *Bougainvillea* to the right.



The Brintons use two night curtains: one is of Dacron sailcloth with Dacron fiberfill batting. The other outer curtain consists of two commercial truck curtains sewn together and suspended on cables. These help prevent heat loss. Here, Ted Brinton demonstrates how the two-layered curtain is pulled across the greenhouse at night.

orchids always in bloom throughout this house." In February when I visited the greenhouse, jasmine, hibiscus, otaheite orange (*Citrus x limonia [taitensis]*), cyclamen from seed and orchids were blooming. I nibbled an interesting green called "corn salad" (*Valerianella olitoria*) and agreed that the bright light diffused through Exolite panels is indeed therapeutic to people and plants.

Fans at each end of the greenhouse are used spring and fall but are sealed shut in winter to prevent heat loss. Without ventilators in the roof, the hot air that rises is circulated by a small ceiling fan that runs

night and day. A little computer fan in the greenhouse doorway blows warm daytime air into the house.

Asked whether there is anything they contemplate changing in the greenhouse in the future, the Brintons allowed that they might automate the auxiliary heating. Toni added, eyeing Ted, "Spending a penny is very hard for Quakers to do." (The Brintons met at Westtown, a Quaker boarding school.)

The thrifty, ingenious and very personal growing spaces designed and used for a decade by these three families have worked well even in this less-than-perfect climate.

### Suggested Reading

**Building Our Own Passive Solar Greenhouse**, by Lisa H. and Robert S. Freeman, *Green Scene*, Volume 11, Number 1, Sept./Oct. 1982

**Solar Greenhouses**, by Richard Fredette III, *Green Scene*, Volume 8, Number 3, Jan./Feb. 1980

**The Solar Greenhouse Book**, James C. McCullagh, Ed., Rodale Press, Emmaus, PA, 1978

**Add-on Solar Greenhouses and Sunspaces**, by Andrew M. Shapiro, Rodale Press, Emmaus, PA, 1985

**Energy Conservation in Greenhouses**, ed. by Phillip G. Correll and Jane G. Pepper, U. of Delaware, Newark, DE, 1977

All books and periodicals listed here are available at the Pennsylvania Horticultural Society Library.

The Dorwarts, Freemans and Brintons all say they would be glad to explain their choices and share their experiences with anyone interested in building a solar space.\*

\* For information on how to reach the gardeners call Jean Byrne, Editor, 625-8254.

Photographer/writer Mary Lou Wolfe, a non-solar greenhouse gardener on a north slope in Whitemarsh Township, envies the south slope solar gardens.



# Vegetable Gardening Techniques

## You Can Live With

 by Ruth Flounders

loosening the soil and removing rocks. Some of the gardeners I respect most swear by the french intensive double digging method\*, but I work on the theory that plants get most of their sustenance from the top 8 inches of soil.

It's smart to start with a soil test. You can obtain the kit from your local extension service. *Be sure to specify that you want organic recommendations.* If you're growing in more than one area, order separate kits for each area as results can vary widely between sites.

Test results will give you your soil's pH (how acid or alkaline it is), and available levels of N (nitrogen), P (phosphorus), and K (potash), as well as calcium and magnesium. Most vegetables prefer a slightly acid to neutral soil between 6.5 and 7.0. Eastern Pennsylvania soils tend toward acidity. Add lime or wood ash at test-recommended rates. Many gardens in urban areas, however, tend to have high pH levels due to lime from mortar in old brick houses.

Making and adding compost is probably the best thing you can do for your garden.\*\* It has the added advantage of recycling both kitchen and yard wastes, respectively number five and two on the list of our country's largest trash sources. Compost acts as a buffer in too acid or alkaline soils and can actually help to detoxify soil.

Even if your garden isn't large enough to accommodate a larger pile, chop and return all healthy vegetable refuse as well as choice items like coffee grounds, tea bags, and banana peels, which can be buried under the mulch or in an idle corner.

Organic soil amendments can be slow working. If plants need a pick-me-up, try feeding with a commercial seaweed or fish emulsion product either as a foliar spray or watered in at the plant's base, or manure tea, made by soaking fresh manure in a closed container for several weeks. Dilute

\* Double digging involves removing and amending topsoil to a depth of 12" and breaking up subsoil to an additional 12" before replacing topsoil.

\*\* See Soils: "What Are They and How Does Organic Matter Improve Them" by Jeff Jabco, p. 12 (this issue of *Green Scene*).

*continued*



'Purple Peacock' pole beans, almost bug-free, produced tremendous yields.

A little more than others, gardeners must sense their connectedness to the earth. After all, we spend so much time with our hands and knees in it. Even if we didn't know for certain that chemical fertilizers and pesticides can be injurious to the environment (check the labels), even if there were no proof that toxic chemicals from farming and gardening are present in our wells and streams and in the food we eat, the reasonable doubt would convince me to garden organically.

Simply, organic gardening means growing without using synthetic fertilizers and pesticides. That has become easier than ever in recent years as more companies compete for the organic growers' dollar. It is possible to go to your garden center and buy everything you'll need, from well-balanced fertilizers like Erth-Rite and Fertrell, to natural insecticides and other pest controls.

That is certainly a step forward. And to many of us organic gardeners, it means a deeper commitment to work with nature and promote soil fertility, which involves continually learning about the delicate balance of life on our land, whether that land is a plot in a community garden, or acres in the country. Growing organically

means growing vegetables that taste better, look beautiful and are safe and nutritious to eat.

### *getting down to earth*

The heart of good organic gardening lies in building the soil. Healthy soil grows healthy plants that are better able to resist disease and insect damage. Healthy soil is brimming with life, from microscopic organisms that change organic matter into available plant food, to insects and earthworms. Chemical fertilizers return only a portion of the elements plants have used and none of the plant and animal residues consumed in growing them.

If your garden doesn't include raised beds, consider adding some. Using available topsoil for growing rather than for pathways makes sense. Raised beds reduce soil compaction by keeping traffic to the paths. They allow closer spacing of vegetables, reduce evaporation and look terrific. Beds can be any length, but keep them to 5-foot widths so you can reach the center. Border them with railroad ties, tree trunks, rocks or simply mound them up Asian-style.

I like to make and work my beds with a spading fork, digging down one fork depth,



to the color of weak tea and spray or water on plants.

Manure is a valuable resource, containing nitrogen and trace elements. Spread early in spring and work in as soon as the ground thaws to prevent runoff and conserve nitrogen. Stables are often eager to share horse manure. Where available, pig, chicken and cow manure are valuable additions to the soil or compost. Use only well rotted manure; if fresh it may burn roots.

Leaves are another readily available source of organic matter containing NPK, as well as calcium and magnesium. Shredded leaves can be used as mulch, composted, or simply put in trash bags with a few handfuls of wood ash or lime. By spring, you'll have a store of nutritious leaf mold. We raid the trash on leaf pick-up days and collect bags from friends.

### **organic insect control**

As anyone who ever planted a garden knows, the bugs will find you. Plant a row of Blue Lake beans or haricots verts where no one has grown beans within a 10-mile radius in 100 years, and the bean beetle will come to dine. Just ask any pioneering city gardener. And it's simply not true that organic gardeners don't mind slime on their kohlrabi and holes in their cabbages. We just deal with harmful insects a little differently.

All pesticides, whether organic or synthetic, are biologically active and designed to kill insects. Rotenone, a popular biological dust or spray, is made from the roots of *Tephrosia virginiana*, an indigenous weed. Rotenone cannot discriminate between bean beetles and ladybugs. It is also toxic to honeybees and fish. I no longer use it.

The advantage of using organic pesticides is that they break down quickly in the environment, but they still must be used with respect. Rather than reaching for something to spray at the first sign of trouble, a combination of physical, cultural, and biological controls can insure an environment where plants as well as birds, butterflies and beneficial insects can flourish.

### **choosing varieties resistant to disease and insects**

Some plants are naturally resistant or less susceptible to disease and insect damage, or recover quickly enough to still produce a crop. My own choice of varieties is a mix of heirlooms and hybrids chosen for their glowing catalog descriptions, but retained for their ability to produce.

While hybrids are genetically bred for desirable traits like resistance to mosaic

photos by Ruth Flounders



Last summer, a praying mantis took up residence in the basil patch. The author looked for him whenever she went there, and swears he was looking back at her (in the foreground, bottom right).

disease or for earliness, heirloom seeds have been saved and handed down because they are desirable varieties. Seeds of the best fruits from the best plants were saved, producing a natural selection. If a plant succumbed to blight, mildew or tasted bad, the seed wasn't saved.

'Celebrity' hybrid tomatoes have yielded good crops for me for the last seven years in rain or drought, but so have 'Super Italian Paste,' a meaty, 5-inch heirloom plum.

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***It's simply not true that organic gardeners don't mind slime on their kohlrabi and holes in their cabbages. We just deal with harmful insects a little differently.***

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'Principe Borghese,' another favorite open-pollinated plum, yields remarkable numbers of small fruits, perfect for drying.

While some plants resist disease, others are "non-preferred" by insects. When other beans suffered serious bean beetle damage, my 'Purple Peacock' pole beans were almost bug-free and produced a tremendous yield. Purple-tinged plants in general seem to be less attractive to insects. Both 'Lasso' cabbage and 'Red Russian' kale suffered much less damage than their green neighbors.

Flea beetles almost totally destroyed our eggplant last year. This year I'm trying 'Osaka Honnoga' and 'Viserba,' both reputed to be non-preferred by the beetles. Check your seed catalogs for resistant and non-preferred varieties of cucumbers, watermelons and peppers.

### **companion planting and crop rotation**

While many gardeners swear by companion planting, I was never certain that "nasturtiums stimulate radishes" in my garden. I *am* certain that mixed plantings

are more likely to attract beneficial insects and less likely to become targets for harmful ones. Fennel, basil, sunflowers, zinnias, marigolds and dill draw more than their share of helpful insects, from parasitic wasps to ladybugs. Last summer, a praying mantis took up residence in my basil patch. I looked for him whenever I worked there, and I swear he was looking back at me.

Some crops like cauliflower and corn are termed "heavy feeders," while others like beets and carrots require smaller amounts of nutrients from the soil. Some plants actually renew soil fertility, like peas and beans. Rotating plants with different requirements, and adding compost with each planting, will promote healthier plants. Reduce problems with anthracnose, carrot fly and powdery mildew as well as other insects and soil borne diseases by rotating crops.

Finding a new area of the garden for tomatoes or carrots can be a challenge for small-space gardeners, but benefits make even a yearly change worthwhile. And your garden will look new each year as well.

### **other cultural controls**

**Time plantings** to avoid problem insects. Flea beetles are most troublesome in spring, so fall plantings of chinese cabbage and other preferred fare will escape damage. Mexican bean beetles are more problematic in late summer, so plant bean crops for freezing as early as possible.

Also, be aware of **Insect Emergence Times** (See Integrated Pest Management article by V. Bruce Steward on page 16). Squash vine borers' eggs are laid in July. Knowing this allows us to take preventative measures or be ready to hand pick the borers at the first sign of wilting. Some pests are more easily hand picked in larval or egg stages. Knowing when to expect them helps.

**Fabric Row Covers**, under trade names





Agronet and Reemay, are made from spun polyester and can prevent flying insects from laying their eggs near plants. Effective against cabbage loopers, flea beetles and others, they should be placed after seedlings germinate or at transplanting. Remove for a few hours a day from plants that require pollination, or hand pollinate. These are available through Gardener's Supply and other major organic gardening catalogs.

**Mulching** with three to six inches of salt hay, straw or other available material, not only saves you hours of back-breaking weeding and reduces the need to water, but helps control harmful insects. A heavy straw mulch under potato vines helps prevent potato beetles. Mulch discourages cucumber beetles. A layer of straw under strawberry plants protects against spittle bugs. An aluminum foil mulch, although it adds no nutrients, discourages spittle bugs.

### *when the bugs come to dine*

When insects do appear in harmful numbers, start with the least damaging methods of control first. Clearly identify insects to be certain they *are* harmful. Read labels. Make sure the pesticide is effective against a particular insect. Follow directions carefully. From least to most destructive organic options are:

**1. Handpick and destroy, dislodge** with a forceful spray of the hose, or use non-toxic mechanical traps like yellow sticky boards for aphids, saucers of beer for slugs or commercially available pheromone traps for Japanese beetles and some other insects.

**2. Soap-Based Sprays** used for aphids, mites, scale, whitefly, thrips and beetles. Safer makes an excellent, widely available insecticidal soap. Some gardeners prefer to make their own using Ivory, Fels Naptha or Octagon soaps. A tablespoon to a gallon of warm water makes enough brew for the vegetable patch. Too concentrated a solu-

tion can burn. Solutions of garlic, hot peppers and/or herbs are also popular.

**3. *Bacillus thuringiensis* (Bt)**, sold under the trade name Dipel or 'Attack' kills leaf-eating caterpillars like imported cabbage worm and cabbage loopers. Bt is a bacteria that infects the larval stage of some insects. Don't use indiscriminately since it also harms larva of other moths and butterflies.

A new strain of Bt is available that infects Colorado potato beetles.

**4. Diatomaceous Earth** is used against leaf-hoppers, flea beetles, aphids, thrips and soft-bodied insects. It is made from the fossilized remains of tiny water diatoms, ground into a fine powder. Safe to handle but wear a protective mask to prevent lung damage. Harmful to ladybugs, praying mantises, and honeybees among others.

**5. Plant-derived Insecticides:** use when milder measures fail. Pyrethrin, Rotenone and Sabidilla degrade rapidly and are relatively safe for warm-blooded creatures, but are potent insecticides.

**Pyrethrin:** most effective when sprayed directly on insects. Safe for humans, animals and honeybees. Safe for ladybug larva, but not adults.

**Rotenone** remains active for three to five days. Can be used within one day of harvest. Use least potent concentration. Toxic to honeybees, so spray in the evening. Harmful to fish and beneficial insects.

**Sabidilla** is the ground seeds of a South American plant. Powerful insecticide effective against grasshoppers, squash bugs and other hard-to-kill insects. Toxic to beneficial insects, fish, honeybees and mammals.

In the end, there's not much we can really control in the environment at large. I know that fertilizer residues, both chemical and organic, will continue to find their way into our creeks, but not from our fields. The deer that graze in my pastures may be killed, but not here. The titmice and chick-

Autumn harvest from left: (largest pumpkin) Pumpkin, compost pile volunteer; 'Yellow Self-Blanching' celery; pumpkin, 'Howden'; (top inside basket) Pumpkin, 'Baby Pam'; basil, 'Perfume Genovese'; pumpkins, 'Jack-Be-Little'; peppers, 'Cayenne' and 'Long Green Buddha'; cucumber, 'Seneca'; watermelon, 'Winter King and Queen'; Elephant garlic; 'Ancho' and 'Mexibell' peppers; 'Jenny Lind' melon; tomatoes: 'Sweet Chelsea,' 'Super Italian Paste,' 'Sweet Million,' 'Principe Borghese,' 'San Marzano,' 'Yellow Pear,' 'Current.'

adees that come to our feeder might be poisoned by insecticides elsewhere and fruits and vegetables will be sprayed with chemicals and grown with chemicals, but not the ones in my backyard.

## RESOURCES

### Seed Catalogs/Many Disease Resistant Hybrids

Liberty Seed Company  
P.O. Box 806  
New Philadelphia, OH 44663  
(216) 364-1611  
Catalog: Free

Willhite Seed Co.  
P.O. Box 23  
Poolville, TX 76076  
(817) 599-8656  
Specializes in watermelons, many with disease tolerance.  
Catalog: Free

### Heirloom/Open-pollinated

Seeds Blum  
Idaho City Stage  
Boise, ID 83706  
(208) 343-2202  
Unusual and interesting varieties  
Catalog: \$3.00

Southern Exposure Seed Exchange  
P.O. Box 158  
North Garden, VA 22959  
Over 400 varieties, extensive cultural information.  
Catalog: \$3.00

### Bountiful Gardens

Ecology Action  
5798 Ridgewood Road  
Willits, CA 95490  
(707) 459-3390  
Interesting varieties, books and tools for organic gardeners.  
Catalog: Free

### Fabric Row Covers, Organic Fertilizers and Pest Controls

Gardener's Supply Company  
128 Intervale Road  
Burlington, VT 05401  
Catalog: Free

Gardens Alive  
Highway 48  
P.O. Box 149  
Sunman, IN 47041  
Catalog: Free

Ruth Flounders gardens organically on Sculpin Hill in Schuylkill County with her daughter Elizabeth and husband Jack, who want their gardens to look like the ones in magazines.



# FOUND OBJECTS REINCARNATED IN THE GARDEN



by Charlotte Elsner

photos by Charlotte Elsner



Left: The color of the woody body blends well with the surrounding katsura and ginkgo trees. With an attached face, the Garden Watcher becomes alive. Right: Originally a Victorian ironing board, the Garden Watcher's wooden body responds to the weather and the seasons, greeting each passerby.

Miss Rococo, a gift, stood white and demure in our garden until the summer evening when a thief threw her over his shoulder and turned to leave. A neighbor's shout halted this Sabinesque abduction. Our outrage was finally diminished when we resolved to have in our city garden only those objects with no resale value. Thus began our search for a way to use recycled and found material in garden sculptures and structures while also compromising with an unpleasant aspect of modern life.

Many gardeners are happy with plants alone. So were my husband and I for many years until Miss Rococo's brief presence made us aware of the interaction of object of art (we didn't think of sculpture) and

green growing things. Using found objects that would reroute material from landfills and at the same time be less likely to be stolen encouraged us to rethink the purpose of placing any object in the garden. Instead of deciding whether to use or not to use traditional garden sculpture, our question became, *what* happens when we place an object in the garden? Does it have to be 'art'?

We remembered that Miss Rococo had drawn attention not only to herself, but to the shiny texture and colors of the surrounding bamboo. Elsewhere in the garden, we found that we saw and liked the visual contrast between inert, grey stone and the pliable, living green plant, between tall and short, the geometric and the organic. Bring-



ing objects into the garden seemed to sharpen our eyes for the details in the plants themselves. Would found objects be able to do this as well as traditional sculpture?

A discarded delivery conveyor now towers incongruously in a West Philadelphia garden. The viewer's surprised eye flits back and forth from garden foliage to the leaf-shaped spaces between the small wheels on the conveyor: the patterns are too similar to be ignored. Yet because of its slim proportions, the 10-foot-high conveyor merges with the upright evergreens and bamboo and does not dominate this shaded city garden. As the leaves shift behind the grid of the conveyor, an everchanging pattern of darks and lights, alive and still, animates the garden.

### *no junk — dignity*

No one wants his garden to become a junkyard, and certain 'rules' will prevent this. Above all the object has to fit in with dignity and should not look ridiculous in the garden. If the 'fit' isn't right, we move the object about until it appears to belong. Some things could not be used. A more basic decision was whether to conceal or accept the original identity of the found object. The test question: *how* is it first seen? At the end of the longest axis of our garden stands the Garden Watcher statue. Its wooden body responds to the weather and the seasons, and I always feel greeted as I pass by. Most visitors see it as a quasi-being before they think to ask what it was. Originally a Victorian ironing board, the Watcher was given a 'face' and became an example of a successfully transformed found object.

Conversely, although the garden lanterns may suggest Japanese prototypes, they cannot hide their cinderblock origins. Since the shapes of the openings among cinderblocks differ, we chose the one block that looked best under its capstones and in its particular setting. Partially burying the base and surrounding it with small flagstones helped to tie the cinderblock lantern into place. Not only has the lantern become a pleasing object to look at in all seasons, but at night a small votive candle set in the top opening holds back the darkness in the garden.

The inverted garbage-can-lid birdbath was a compromise, not with two-footed vandals, but with neighborhood cats who regularly jumped to the rims of several pedestaled birdbaths and sent them crash-



Partially burying the base and paving the surrounding area with small flagstones helped tie cinderblock lantern into place. Flat, rounded stones repeat the shape of the metal birdbath, so that it too appears to belong in this setting. A small votive candle set in the top opening holds back the darkness in the garden.

ing. In the city, lids seem to outlive the garbage cans. As birdbaths, the lids are good for an additional five or six years before they rust and finally have to be thrown away. Metal does not crack when water left in the basin freezes, the grey color is unobtrusive, and the birds approved of the depth of the water in it. Round, flat rocks tie the birdbath in with its natural surroundings. Carefully positioned where the reflecting surface is visible from inside the house, the little pool mirrors the sky. Its spattered, rippled or calm surface becomes a weather-watch.

Another rule guiding the use of non-traditional objects is to keep things few, simple and identical. With new restrictions for yard trash, the compost pile becomes an essential part of all gardens. Our three-bin pile is made from all-too-abundant wooden shipping pallets found discarded on the streets around West Philadelphia (or ask at the loading dock of your local supermarket). We use 10 of these bulky trash items every three or four years, after which they wood rots itself into compost. The pallets are simply wired together at the four corners, and we try to find three identical pallets for the front panels. Their slats could have been stained and the entire

structure made invisible, but we like the pattern of the quickly aging wood. At the very back of the garden, the pallets suggest sheep hurdles from a faraway landscape.

### *please touch*

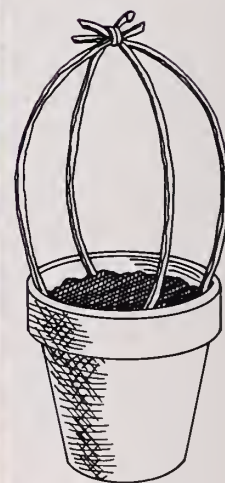
Nature, as well as man, can create art. A gift of four matching limestone 'stacking stones' became our first found sculpture. This is definitely a "please touch" object whose parts are meant to be endlessly rearranged. At rest, the stack draws the eye to a low wall where the shadows and highlights of all the stones change throughout the day. These four small stones and their casual placement prove that not all sculpture has to be monumental. The most modest object can be a pleasure to contemplate.

Another almost imperceptible arrangement is made from three muffin-like stones sitting on an upended log. Put together almost by chance, this structure imposes itself slowly on anyone seated nearby and promotes different interpretations. Because the log catches the low early morning sun, it becomes a dramatic gnomon across the garden's seating area identified only by the rough flat stones.

The low light of the winter sun and the

*continued*



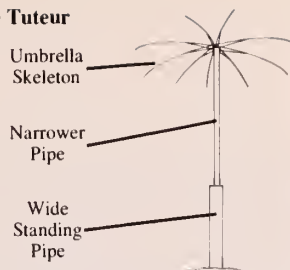


**Garden Prunings  
Create Plant Cages**

Top left: The low light of the winter sun and the long shadows it casts create a dramatic light show moving across an otherwise empty patio. Top right: From the other side of the fence, a woven opening frames a charming view of a house dormer. Bottom: In a Northern Liberties community garden fences woven from garden prunings outline an individual plot.



## Homemade Tuteur



long shadows it casts can create a dramatic lightshow moving across an otherwise empty patio. A West Philadelphia neighbor has collected broken or discarded architectural parts to add winter interest to the patio he sees from his dining window. The small bricked area becomes a winter sculpture garden, at times suggesting a sea of planets. Every few weeks this constellation is rearranged, until it is time and warm enough to bring out chairs and the overwintered potted plants. The stone balls spend the summer tucked away under the shrubbery.

The garden itself can be a source of found material for structures. Every gardener with fruit trees knows that getting rid of the mass of spring prunings is far worse than the work of cutting them. As long as these long sprouts remain flexible, they can be woven into the low fencing used to surround herb and other small garden plots. In a Northern Liberties community garden these fences serve as markers between plots. To protect fragile lawns and plantings, Japanese gardeners construct temporary fences from overlapped half circles of long shoots. A member of the Garden Club of Philadelphia suggests firmly inserting several shoots at one or both ends around the rims of large flowerpots, then tying them together at the tops. The resulting 'plant cages' support floppy potted plants.

Instead of bagging for disposal, use the various garden prunings to decorate surfaces and structures. University of the Arts students under weaver Sandra Brownlee's supervision have worked eye-delighting details into the fences separating plots in Seedy Acres community garden near 4th and Poplar in the Northern Liberties area. In one fence an opening woven at the top edge becomes an eye gazing at the sky. From the other side of the fence, the opening frames the view of a charming house dormer. On a neighboring panel, a God's Eye is woven into the fence, while a tapestry of patterns conceals the cyclone fencing behind the garden's picnic area.

The community gardens of Philadelphia are filled with the ingeniously used found objects. A sturdy and elegant garden bench in the Southwark/Queen Village garden that also serves to store garden tools, was designed by Charles Young of Penn State's Urban Gardening Program. Made from the



The free-standing tuteur structures encouraged a massed display of the vines planted on them. The small red trumpets of the cardinal climber (left) glowed next to the morning glories.

joists of demolished buildings, the bench is too heavy, too unobtrusive to attract a thief's eye. In the same garden, ceramic chimney flues support a pair of flowerpot saucer birdbaths.

### Monet's tuteurs

We've used discarded iron gas pipe from building renovations to construct both decorative and useful objects. With a simple pipe-in-pipe socket arrangement, we solved our problem of how to insert long pieces of pipe deeply enough into the ground to give a structure its needed stability. For each long pipe we found or cut a shorter 24-inch to 36-inch pipe whose slightly larger diameter would slip over the long pipe. The short length was easily driven halfway into the ground, and the long pipe was then simply dropped into this sleeve, or socket. With these socketed pipes we first constructed several miraculously non-collapsing X- and A-frames for heavy tomato vines and other vegetable crops. Since this system solved the difficulty of setting any long pipe into the ground, it also made possible the *tuteurs*.

Tuteurs are the upright supports used by the painter Monet for the free-standing 'vertical accent' plantings of vines and climbing roses in his garden at Giverny. A

garden supply catalog offered small versions of tuteurs, but we wanted many and taller ones. To make our tuteurs, the socketed pipes were topped with the skeletons of abandoned umbrellas found in the streets. The bare struts of the umbrellas formed the outstretched support at the top of the eight- to 12-foot tuteurs. As the vines planted on them grew heavy at the end of summer, the need to discriminate between strong and weak umbrellas became clear.

Otherwise the socketed-pipe tuteurs were an enormous success that offered unanticipated surprises and benefits. As isolated vine supports, they could be temporarily set up anywhere for the season. With the single driven-in socket, they needed little surface space. The three or four annual flowering vines and climbing vegetables planted around each pipe were lifted to a height where they could be examined and enjoyed. As the first vines reached the bare umbrellas, they formed beautiful silhouetted patterns against the open sky. When the vines thickened, the tuteurs cast a welcome lane of shade down one side of the sunny garden. Moon vines were planted on shorter tuteurs, and their flowers remained within the reach of the noses of nighttime admirers. After the fall frosts, it was easy to lift the entire tuteur out of its socket, strip off the dead vines, and pull out the shorter socket pipe for winter storage and reuse the next season.

There are many reasons to use recycled material in our gardens today. As for the earth, so there are benefits for the gardeners themselves. Whoever simply takes the trouble to wash out and reuse the most humble plastic plant container rather than buy a new one has a sense of becoming involved with the fate of the earth. In our garden, my husband and I receive a great deal more: we find recycling material for the garden to be a creative, challenging and a low- or no-cost opportunity to experiment. Including found objects tastefully and usefully teaches us both to look at and to experience a garden. In its turn, the garden opens up even more of its many-sided potential. And we have fun.

Charlotte Elsner is an artist who gardens and scavenges in West Philadelphia. She has an M.S. in biology and a horticulture degree from Temple University/Ambler Campus.





illustration by Gina Rondinelli

# WETLANDS:

## One way to contain and treat pollution

by Jeffrey D. Lapp

photo by Jeffrey D. Lapp



Note the buttressed trunks and knees of the bald cypress (*Taxodium distichum*). These structures allow the plant to support its weight and to pull air down to the root system to alleviate the problems associated with living in a wetland.

As we approach the year 2000, we have begun to question the earth's ability to sustain human life for the next 2,000 years. We all rely heavily on our environment for food production, recreation, and water supply. The pollution that enters our streams and rivers may destroy this fragile environment. While we have improved water quality in recent years, we continue to pollute our waters.

Let me first explain the two major types of pollution entering into our watersheds: point and non-point sources. A point source is a structure, commonly associated with industry, such as a pipe through which waste (effluent) passes into a water way. Non-point source is runoff from an area not contained in a pipe or structure. The distinction between the two types is important because we must deal with each one under a unique set of circumstances.

### *point sources of pollution*

On the surface, point source pollution problems may seem relatively easy to solve since all we need to do is treat the effluent to remove the pollution before releasing it into the water course. For example, a company may need to filter out material or let the waste cool. The problem is that systems designed to remove chemicals from effluent are expensive to a company and the high cost may drive them out of business when treatment costs outpace profits. Because of these prohibitive costs very few companies would voluntarily treat their effluent. To stop degradation of the rivers, bays, and estuaries throughout the United States, Congress passed the Federal Water Pollution Control Act in 1972; in 1977 this Act was reauthorized as the Clean Water Act to restore and maintain the physical, biological, and chemical integrity of the nation's waters. Section 402 of the Act requires companies to meet a set chemical limit on the effluent they dis-



charge. This program is called the National Pollution Discharge Elimination System (NPDES), and since it has become law the level of pollutants industry has discharged into U.S. waters has decreased markedly. The effectiveness of this law is seen in the Delaware and Hudson Rivers and the Great Lakes, Lake Erie in particular. Shad are back in the Delaware River, and Lake Erie, no longer called a dead lake, is a great fishing spot for walleye and salmon again. Although industries incur expenses, they are required to meet those standards which will, at a minimum, maintain the integrity of our water supply.

### ***non-point source pollution***

Non-point source pollution presents a difficult problem. Large amounts of phosphate- and nitrate-loaded runoff enter waterways throughout the country from dairy farms, feed lots, golf courses, and farm fields. It's hard to contain these sources of pollution since the land mass in question is such a large area. The recent creation of wetlands to capture and treat this runoff is considered a primary way to solve this problem because the wetlands concentrate and trap specific types of pollution (See box). We must be able to determine the amount of fertilizer, herbi-

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***We must not look at these wetlands as mosquito breeding swamps but as nature's pollution filters.***

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### **WETLANDS**

Wetlands are areas located at the juncture between water and land. Some wetlands we typically call swamps or marshes, and other are forested areas only wet in the spring. Regardless of the type of wetland, they all have some similar functions and values. Probably the most noticeable of these are the diverse habitats wetlands offer a variety of animals, ranging from salamanders and frogs, which breed in the vernal (spring) pools formed in forests, to migratory songbirds that breed in wetlands during the summer. These areas provide for so many animals because they are an attractive ecosystem for both terrestrial (land) and aquatic species. Wetlands also offer an abundance of plant species, hydrophytes, because they have adapted to living where their roots are, at some time in the year, surrounded by water. One problem these plants face is how to provide support for their weight under wet soil conditions. Most plants either send out a shallow root system or enlarge (buttress) their trunks at the base to compensate for the instability of the saturated soil. The absorption of oxygen is another major problem these plants must deal with. Unlike plants that normally absorb oxygen through their root systems, roots surrounded by water cannot perform this function; plants must then find an alternate method to take up oxygen. Plants have developed two systems to achieve this. First the plants' pores enlarge, either the lenticels or stomata. Second, they develop "knees," structures that arise from the roots and extend above the water level, enabling the plants to draw air down to their root system.

Besides their value to plants and animals, wetlands also provide a variety of water quality functions. Wetlands store water during floods because they act as sponges and slowly release the water back into streams and rivers, thus lessening the damage caused by storms. Wetlands also purify water by removing and filtering pollutants and sediment. As water enters a wetland it spreads out and slows down. When this happens, the sediment carried by the water can settle out and is incorporated into the bottom (substrate). Heavy metals, which may be carried by the sediments, are also trapped by the substrate and prevented from going any further. Bacteria that fix nitrogen play an important role in a wetland's ability to absorb pollution. The bacteria convert the nitrogen carried by the water into a form the plants use as nutrients; phosphorus entering the wetland is also extracted by vegetation. This action removes the pollutants from the water so they cannot affect areas downstream of the wetland.

While no wetland controls pollution or retains floodwater 100%, they do provide a measurable amount of relief. What we must remember is that wetland ecosystems provide a wide variety of water quality as well as habitat functions. We must study these areas in detail so that we can create these systems to assist us in treating pollution. Already, we are using created wetlands to treat sewage wastes, acid mine drainage, and remove sediment. In addition, these systems also provide a host of habitat functions as well. In the future we may be able to help threatened and endangered plants and animals while improving water quality at the same time.

cide, pesticide, and animal concentration necessary to enhance the harvest of our farm fields and feed lots without polluting. The Federal Government is developing water quality standards for non-point sources of pollution and will set acceptable limits for this type of contaminated runoff.

Even with all of the current governmental regulations, pollution entering into our water supply threatens our sources of drinking water and endangered aquatic areas. The biggest problem is in detecting the source of the pollution, and the economic gain to polluters who won't comply with regulations. Sediment contaminated with phosphorus and nitrogen is still a major problem associated with the Chesapeake and Delaware bays and continually harms populations of crabs, oysters, clams and fish. Submerged aquatic beds of vegetation and shellfish beds are being choked out by large amounts of sediment. Excess phosphates and nitrates cause large algae blooms, which then die and decay, deplete the water's oxygen, and suffocate aquatic communities.

We must first identify areas where pollution enters our waters, then contain and treat it. Wetland creation, preservation, and enhancement can help alleviate some of the pollution problems our waterways face. Wetlands, however, are also being threatened by development and are disappearing at an alarming rate (See box). We must not look at these areas as mosquito breeding swamps but as nature's pollution filters. Not only can wetlands help with our pollution problems, they store flood waters, releasing storm water back into streams and rivers slowly, and provide excellent habitats for a great number of animals including endangered plants and animals.

The beauty of this planet can be preserved for future generations if we become concerned now. Every little bit of pollution that we can prevent is a gain for the environment. If we treat earth with care and respect it will, in return, give us the bounty of the oceans and the land for years to come. At the top of all our lists should be the control and treatment of pollution and the enhancement and preservation of wetlands.



## WETLANDS TO VISIT

A number of wetlands throughout the Mid-Atlantic Region are small areas adjacent to streams, rivers, and lakes. Some large wetland systems have been set aside as preserves or national parks. These include Assateague Island, Va.; the Great Dismal Swamp, Va.; Black Water Refuge, Md.; Presque Island, Pa., and the Pine Barrens of N.J. There are many more local wetlands you can visit; a good source of information about these areas are your local chapters of the Nature Conservancy, The Audubon Society, the National Wildlife Federation, and the Sierra Club. Many birding, hiking, and botanical clubs also offer trips to wetlands in the area, so check your newspaper for the upcoming events. If you are interested in learning more about wetlands, the Morris Arboretum of the University of Pennsylvania\*, through the Philadelphia Botanical Club, has a variety of classes and field trips offered throughout the year. Check with these sources and go out and explore wetlands firsthand.

\* Morris Arboretum of the University of Pennsylvania, 9414 Meadowbrook Ave., Philadelphia, PA 19118; (215) 247-5777.

## A VANISHING RESOURCE

Since the settlement of North America, wetlands have been threatened in the United States by a host of developmental pressures. The historical causes of wetland loss are farming, timber production, road construction, housing developments, peat mining, flood control and water supply. Of the original (estimated) 215 million acres of wetlands in the lower 48 states approximately 99 million acres now remain, 46% of the original wetlands. In the last 20 years alone, we've lost approximately nine million acres, and continue to do so at an alarming rate.

At present our wetlands face a legislative battle for the continued protection of these special ecosystems. The Clean Water Act, which protects wetlands under Section 404, is up for reauthorization from Congress. A number of bills have been introduced in both the House and the Senate, which will weaken the current wetlands regulations and the wetland systems to be protected. Concerned citizens should write to their representatives and senators urging them to maintain and to strengthen wetlands protection.

A number of State and Federal agencies regulate and protect wetlands. For further information about wetlands in

the Pennsylvania, Maryland and Delaware area contact the:

U.S. Environmental Protection Agency, Region III, 841 Chestnut St., Philadelphia, Pa. 19107

Army Corps of Engineers, 31 Hopkins Plaza, P.O. Box 1715, Baltimore, Md. 21203-1715, or 32nd and Chestnut Sts., Philadelphia, Pa. 19106

U.S. Fish & Wildlife Service, 1825B Virginia St., Annapolis, Md. 21401, or 15 S. Allen St., State College, Pa. 16801

Delaware Department of Natural Resources & Environmental Control, Dept. 89, Kings Hwy., Dover, Del. 19901

Maryland Department of Environmental Resources, 2500 Broening Highway, Annapolis, Md. 21401

Pennsylvania Department of Environmental Resources, 9th Flr., Fulton Bldg., 3rd and Locust Sts., P.O. Box 20063, Harrisburg, Pa. 17120

**National Wetlands Hotline 1-800-832-7828** to find out about current programs and wetland laws.

Local nature clubs are also a good source of information and can usually put you in touch with local offices of the resource agencies.

Jeffrey D. Lapp graduated from Kutztown University (Pennsylvania) with a degree in Marine Science. He's currently employed as an environmental scientist in the Wetland Section,

Environmental Protection Agency, Region III. An avid gardener, Jeff has been studying landscape architecture at Temple University over the last three years when time permits.

## More Reading About Environment-Friendly Gardening

### BOOKS

*Building a Healthy Lawn*, Stuart Franklin, Storey Communications, Inc., 1988, Pownal, Vermont.

*Building Healthy Gardens*, Catharine Osgood Foster, Storey Communications, Inc., 1989, Pownal, Vermont.

*The Chemical-Free Lawn*, Warren Schultz, Rodale Press, 1989, Emmaus, Pennsylvania.

*Gardening with Native Wild Flowers*, Samuel B. Jones, Timber Press, 1990, Portland, Oregon.

*The Natural Garden*, Ken Druse, Clarkson N. Potter, 1989, New York.

*The New Organic Grower*, Eliot Coleman, Chelsea Green, 1989, Chelsea, Vermont.

*The Organic Garden Book*, Geoff Hamilton, Crown Publishers, Inc., 1987, New York.

*Rodale's Garden Problem Solver: Vegetables, Fruits and Herbs*, Jeff Ball, Rodale Press, 1988, Emmaus, Pennsylvania.

*Rodale's Illustrated Encyclopedia of Gardening and Landscape Techniques*, Barbara W. Ellis, editor, Rodale Press, 1990, Emmaus, Pennsylvania.

*The Simple Act of Planting a Tree*, Andy & Katie Lipkis, Jeremy P. Tarcher, Inc., 1990, Los Angeles, California.

### PERIODICALS

*American Forests* (Bimonthly), American Forestry Association, 1516 P. Street, N.W., Washington, DC 20005. Subscription \$24/yr. (202) 667-3300.

*continued*



*Garbage, The Practical Journal for the Environment* (Bimonthly), Old House Journal Corp., 435 Ninth St., Brooklyn, NY 11215. Subscription \$21/yr. (718) 788-1700.

*The Global ReLeaf Report* (Quarterly), Global ReLeaf, American Forestry Association, P.O. Box 2000, Washington, DC 20013. Newsletter with membership, \$10. (202) 667-3300.

*GROW Newsletter* (Bimonthly), Grass Roots the Organic Way, Inc., 38 Llangollen Lane, Newtown Square, PA 19073. Newsletter with membership, \$15/yr. (215) 353-2838.

*The IPM Practitioner* (10 times yearly), Bio-Integral Resource Center (BIRC), P.O. Box 7414, Berkeley, CA 94707. Journal with BIRC membership, \$25. (415) 524-2567.

*NRDC Newsline* (Bimonthly), Natural Resources Defense Council, 40 W. 20th Street, New York, NY 10011. Newsletter with NRDC membership, \$10. (212) 727-2700.

*Organic Gardening* (9 times yearly), Rodale Press, 33 E. Minor St., Emmaus, PA 18908. Subscription \$25/yr. (215) 967-5171.

*Pesticides and You* (5 times yearly), National Coalition Against the Misuse of Pesticides, 701 E St., S.E., Washington, DC 20003. Subscription, \$20/yr. Membership (includes subscription) \$20/yr. (202) 543-5450.

These lists are not comprehensive and are only meant to assist people new to discussions about environment-friendly gardening with their beginning explorations. All books and periodicals are available through the Pennsylvania Horticultural Society Library.

## LETTERS TO THE EDITOR

### *Seemannia latifolia*

Toni Brinton's article on *Seemannia latifolia* intrigued me. Besides some botanical revisions, this rare gesneriad is mentioned in the Brooklyn Botanic Gardens *Handbook on Gesneriads* (Plants & Gardens Vol. 23, No. 1, 1967) on p. 29:

"*Seemannia*. Herbs with scaly rhizomes. The leaves are usually whorled, at least on the upper part of the stem. The flowers are red or yellow, campanulate, with small lobes. There are about eight species from South America. *S. latifolia* has narrow bright green leaves and showy red-orange flowers on long stems. *S. sylvatica* has several color variations and has wider leaves."

Harold Moore omitted *Seemannia* in his monumental book on *African Violets, Gloxinias, and Their Relatives* (Macmillan, 1957). *Seemannia* is sometimes included in the genus *Gloxinia* (not the florist's gloxinia, which is *Sinningia speciosa*). *Seemannia* was first published by Eduard August von Regel in 1855 in his *Gartenflora* to honor Berthold Carl Seemann (1825-1871). Thus, the genus correctly has a double "n" as published by Regel.

Arthur O. Tucker, Research Professor  
Dept. of Agricultural & Natural Resources  
Delaware State College, Dover, Del.

Toni Brinton can find a description of *Seemannia sylvatica* in L.H. Bailey's *Standard Encyclopedia of Horticulture*. It is from Peru.

the green scene / july 1991

*S. latifolia* is discussed in Charles Marden Fitch's *The Complete Book of Houseplants*. He says it is from the Andean rain forests. I hope I have been of some assistance.

John R. Carlson  
Kendal at Longwood  
Kennett Square, Pa.

Your *Seemannia latifolia* in the May/June 1991 issue of the *Green Scene*, is *Gloxinia sylvatica*. The botanical name was changed some years ago as most plants in the genus *Seemannia* were transferred to the genus *Gloxinia* by taxonomists working with *Gesneriaceae*. The species name, *latifolia*, was also changed since the plant had originally been identified as *G. sylvatica*.

This is a rhizomatous gesneriad, which may experience a period of dormancy. The 3"-5" gray-green leaves are whorled on the stem. The multiple small flowers grow in large numbers from the leaf axils. The tube is red and throat golden yellow. *G. sylvatica* likes to roam and grows best in a wide pot or hanging basket where it can produce ample rhizomes to carry it through dormancy.

Laura Shannon  
Gesneriad Passer for the  
Philadelphia Flower Show  
President of Liberty Bell Chapter of AGGS  
Master Judge for AGGS  
(American Gloxinia & Gesneriad Society)  
Master Judge for GSI  
(Gesneriad Society International)  
Chestnut Hill, Philadelphia, Pa.

### *Eucomis bicolor*

I have just finished reading your article by Amalie Adler Ascher about minor bulbs.

I have had great success with *Eucomis bicolor* pineapple lily. I've been growing them for over 25 years and have never taken them out of the ground, or covered them. I also grow calla lily outside for the same amount of time.

I live in Collingdale, Pa., and give the plants a southern exposure. I don't know if this information will help in her research.

Robert Grenfell  
Collingdale, Pa.

### Grassless Stepping Stones

For years I have struggled to keep the grass back from our stepping stones, and it was a constant battle.

Early last summer I did an especially good job of it one day (it took hours!), and then I put a line of table salt around each stone. That did it! No trouble since.

Even when weeds were starting to grow due to the mild winter, the ground around the stones was bare except for a bit of moss here and there.

Florence McElroy  
Merion Station, Pa.





# The Plantfinder

A free service for *Green Scene* readers.

If you can't locate a much wanted plant, send your name and address (include ZIP), the botanical and common name of the plant to Plant Finder, *Green Scene*, PHS, 325 Walnut St., Philadelphia, PA 19106.

## WANTED

*Philadelphus* 'Argentine.' Contact Dr. Edward F. McGrath, 27 Otis Street, Milton, Massachusetts 02186.

*Ilex* x 'Raritan Chief.' Contact Mrs. Paul Brubaker, 14 Yorke Rd., Convent Station, NJ 07961.



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A photograph of a solar greenhouse. In the foreground, a large, circular, covered hot tub is visible. To the left, a wooden staircase leads up from the hot tub area. In the center, a window is set into a brick wall, with a large fan mounted above it. A potted plant with large, dark leaves stands next to the window. To the right, a tall, spiky plant is visible. The interior of the greenhouse is filled with various plants and foliage.

Pete and Bonnie Dorwart's solar greenhouse is 10 years old. Stairs lead from bedroom balcony to hot tub (covered here). Fan that blows hot air from greenhouse into dining room is next to hot tub. Tall plant at right is *Pachypodium rutenbergianum*. The greenhouse temperature climbed to 90°F on an October day, when this photograph was being taken.

photo by Mary Lou Wolfe



















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